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Start Year on Favorable Terms

Iron and Steel Markets Face 1925 With Best Prospect of Any Year Since War—Demand Expands as Consumers Make Up for Conservative Buying—Prices Retain Firmness—Operating Rate Rises Slightly

AFTER a brief and unusually slight interruption during the holiday season, the iron and steel market is resuming its brisk pace. Expanding demand, firm prices and increasing rate of production which have characterized the situation since mid-November again are emphasized.

A significant feature of the present market is the repetition of purchases by buyers who underestimated their needs when the original orders were booked. In steel plates and bars, and to a lesser extent in pig iron, consumers have had to increase their specifications for January shipments in order to make up for too conservative ordering in December.

Steelworks operations have increased slightly, especially in Chicago and the valley where the rate of steelmaking is almost one hundred per cent. The average for the entire country is estimated at from 85 to 90 per cent of ingot capacity. The condition of Chicago mills is rapidly reaching a point where western consumers will be obliged to go to Pittsburgh, valley and eastern plants for rolled material. Under the present system of quoting, Pittsburgh prices, plus freight to western destination will prevail, meaning that certain consumers ordinarily served by Chicago mills will be placed at a disadvantage.

As totals for 1924 are compiled, it becomes more and more evident that business finished stronger than was predicted during the low points of the year. Compared with the preceding 12 months, 1924 was a 77.5 per cent year in pig iron production. Sales of finished steel were 83 per cent of the 1923 total, according to the experience of one of the largest producers. The prominent position of railroads as buyers of steel is reflected in the total of 144,455 cars purchased in 1924 as against 103,500 the year before.

Prices Tend Upward

The price movement in pig iron continues upward, with 50 cent advances in force in several selling districts. No. 2 foundry and malleable now are held at a minimum of $24, Chicago and eastern iron is up in the same proportion. Ferromanganese, recently advanced to $110, duty paid tidewater, is firm at that level. The coke market still exhibits signs of distress and the price situation is confusing.

Plates are holding their recent gain in prices, the spread now being 2.00c to 2.10c, Pittsburgh. Steel shapes and bars are firm at 2.10c, Pittsburgh. Iron bars at Chicago are unusually active, permitting one mill to go on double turn.

Semifinished material continues to show price firmness. At Pittsburgh $37 is the minimum on rerolling billets and slabs, while $39 is the bottom price for sheet bars, with $40 more nearly representative.

Rail Buying Continues

Railroads continue to place orders for rolling stock and track material. Among car awards of the past week are 5000 for the Baltimore & Ohio and 1000 each for the Northern Pacific and Missouri Pacific. The Grand Trunk has ordered 13,000 tons of rails and the Kansas City Southern has awarded 12,000 tons. The United States Steel Products Co. has booked 7000 tons of rails for the South African railways. An increase in the price of track accessories is expected in the near future.

The first indication of interest in iron ore requirements for 1925 appeared this week when several consumers made reservations, the tonnage in most cases being materially heavier than last year.

IRON TRADE REVIEW composite of fourteen leading iron and steel products is $40.92 a gain of 22 cents over the $40.70 of December 31. This is the highest total since May last year and is largely the result of stronger prices in pig iron and semifinished material.

Iron Output Gains

IRON TRADE REVIEW'S estimate of December pig iron production, published last week, proved to be only 21,067 tons low, the correct figure as compiled from reports from furnaces being 2,961,067 tons. This is a gain of nearly 450,000 tons over November, and brings the total for 1924 to 31,081,250 tons as compared with 40,025,850 tons produced in 1923. The improvement in December is emphasized by the fact that on the last day of the year 229 stacks were active as against 204 at the end of November. Pig iron output in December was at the rate of 34,800,000 tons annually.

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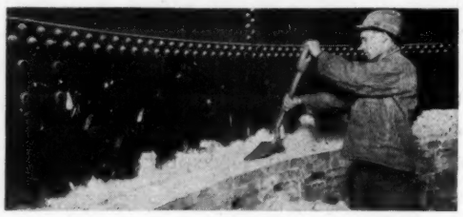
What Our Customers Are Buying

WORDS sometimes seem cold when used to designate a compilation of figures. Take for instance the annual report called distribution of steel by groups, steel consumption, where steel goes, and so forth. While such captions are necessary to be specific, they do not convey the full purport of the information imparted. We think that in the steel industry these lists and groups of consumers should be considered as "Our customers," and "What our customers buy." That brings us closer to the subject, and conveys a better idea of the importance of the matter disclosed—it pertains to persons, "our customers." The figures show what we sold to them, and what we may expect. This was one of the real features of Iron Trade Review's annual, Jan. 1. Beginning in 1921, when it originated the plan of compiling the figures, Iron Trade Review has carried it forward as a record of prime importance.



High Temperature Insulation. Page 151.

Cross Sections of Industry

"Electric arc welding is employed in practically every branch or division of the metalworking industry."—*From IRON TRADE REVIEW'S Survey, "Electric Arc Welding".*

Price Movement in Pig Iron Continues Strongly Upward—New Buying Moderate—Shipments Start Year with a Rush

PITTSBURGH, Jan. 6.—The pig iron market is relatively dull, although it has not lost any of its strength. Foundry iron promises an additional early increase, the minimum now being $22.50. Some makers are quoting $23 for prompt or first quarter and $24 for second quarter on the No. 2 grade. One producer quoting $22.50 last week advanced 50 cents today. Several second quarter inquiries are out, including one for 1000 tons and one for 750 tons monthly.

The Pennsylvania railroad, Philadelphia, through Montgomery Smith, purchasing agent, took bids until Jan. 7, on 2000 tons of foundry iron, silicon, 2.50 to 3.00.

Numerous smaller inquiries are for prompt first and second quarter delivery. Inquiries also are current from foundries that are not sufficiently covered. An item of strength is that various steel companies, including the Bethlehem Steel Co. and the Youngstown Sheet & Tube Co. are dropping out of the first quarter market. One sale of 500 tons of No. 2X iron is noted at $23.50. F. E. Myers, Ashland, O., is understood to have bought a similar tonnage in the valley under that figure. Most foundry sales are in single carloads or 100 tons. Large tonnage inquiry for steelmaking iron is lacking. A local roll foundry purchased 100 tons of basic at $22.50 valley, although basic is openly quoted elsewhere at $21.50, valley. Several small sales of bessemer still bring $22.50. The Duquesne Steel Foundry is in the market for first half requirements.

Average sales prices of pig iron for December, as compiled by W. P. Snyder & Co. on basic and bessemer grades were $20.281 and $21.885 respectively. This is an increase of $1.601 on basic and $1.565 on bessemer over November.

Foundries Hesitate To Buy

Boston, Jan. 6.—While prices in Buffalo and eastern Pennsylvania producing districts remain firm, New England foundries for the moment are out of the market and sales during the past week have been few and far between, with practically nothing over 200 tons reported. A Massachusetts consumer recently bought 200 tons of No. 2X central Pennsylvania iron, (2.25 to 2.75 silicon), at $23, furnace, or $27.92 delivered. This is about the low point of the recent trading. Buffalo furnaces are practically all uniform at $23.50 for No. 2X iron and $24.50 for No. 1X iron. One eastern Pennsylvania furnace is quoting $23.50, $24.50 and $25.50 respectively for the first three silicon grades. Conditions among foundries show improvement and most observers feel that a pig iron buying movement is in prospect. Foreign iron is offered New England melters and several small sales of this have been made.

New Inquiry Small

New York, Jan. 6.—Sales of pig iron during the past week aggregated around 10,000 tons in this territory. Activitiy has fallen off considerably. New inquiry is small. As a rule, consumers are busy with their inventories and not much further buying is expected to materialize until after the middle of January. In the meantime, the market here continues strong and none of the makers is anxious to sell. The majority of them are substantially out of the market. Eastern foundry iron now is hard to get under $24 base furnace, with the prices on 2.25 to 2.75 silicon grade ranging all the way from $24.75 to $25 furnace. The current figures on 2.75 to 3.25 silicon grade range from $25.50 to $26 furnace. Buffalo foundry is firm at $23 base furnace, plus 50 cents for 2.25 to 2.75 silicon and plus $1 additional for 2.75 to 3.25 silicon. Little foreign iron is being sold at this time as far as known. It is expected that one of Witherbee Sherman & Co.'s furnaces at Port Henry will be placed in blast this week.

Buffalo Firm at $23

Buffalo, Jan. 6.—Pig iron inquiry is estimated at 5000 to 10,000 tons. Some good lots are the subject of private negotiation. At least three lots are receiving quotations from Buffalo makers this week, one of 5000 tons, another of 4000 and another of about 1500, all foundry iron. Makers report New England consumers providing the bulk of the inquiry. All Buffalo furnaces are firm at $23 for No. 2 foundry iron (1.75 to 2.25 silicon). For No. 2X (2.25 to 2.75 silicon), $23.50 is asked, and on No. 1X, (2.75 to 3.25 silicon), the price is $24.50. One Buffalo maker this week withdrew all quotations on No. 1X and higher silicon grades in anticipation of higher prices. Sales of the New Year week are estimated to have exceeded 10,000 tons. The Wickwire furnaces which have been out of blast for many months may be placed in production some time in the second quarter, although this announcement is not official.

Shipments Good; Prices Strong

Cleveland, Jan. 6.—The year is starting with good shipments of pig iron, which is one of the promising indications of prospective business. On the surface the market is quiet, not having picked up from the holiday lull. Sales by the interests with headquarters here in the past week were approximately 15,000 tons. Business pending probably aggregates 50,000 tons, in moderate size lots. It is considered rather early for much buying for the second quarter. Meanwhile prices are strong. Cleveland sellers point to the valley price as a base on which to figure at present. The freight rate from the valley is $1.76. One of the Cleveland makers is asking $23.50, furnace, for local or outside delivery. That would bring the price in the Cleveland area to $24, delivered. Another names this as its furnace price, or $24.50, delivered. These prices represent increases of 50 cents to $1 in the week. The Cleveland furnaces, however, are practically out of the market. A merchant furnace interest with headquarters here has made sales at $23, valley base. It booked around 5000 tons for its furnaces during the week. The $23 price is stated to be general, applying on delivery from all furnaces. The lake furnace price is $23, base. A western Pennsylvania stack also quotes this figure as its furnace price. A feature of the market is the increasing interest in basic. Among inquiries is one from the United Alloy Steel Corp., Canton, O., which is in the market for 10,000 tons for the second quarter. A local interest is quoting $23, furnace, on basic, while some valley furnaces are asking $22.50.

Top Not Yet in Sight

Chicago, Jan. 6.—Northern malleable and foundry iron are strong at the new range of $24 to $24.50, furnace. The top of the market apparently is not yet in sight. One seller claims to have no price, but is considering individual tonnages as they come in. It is doubtful whether less than $25 could be done on tonnage for delivery late in the first quarter. Melters continue to press for deliveries. Shipments over the holidays failed to

show the usual seasonal decline. December shipments were a third greater than November's. Every merchant stack in the Chicago district now is active except one at Mayville. It is predicted January production will be inadequate to meet demands. The second Federal stack has been blown in. Another Iroquois stack will be lighted this week. New business has been less spectacular than melters' demands for shipments against contracts. Some melters have bought for the third time for the first quarter. An unusual spot demand is believed to be developing and may not reach the peak until February. A local car wheel foundry placed 10,000 tons. Several 5000-ton orders also are reported sold. Southern iron, 1.75 to 2.25 per cent silicon, has sold at $21 with the quotable range $20 to $20.50. Chicago iron is firm at $23.50 to $25, and the leading local producer is asking $24 to $24.50, f.o.b. Granite City.

Furnaces Indifferent

Philadelphia, Jan. 6.—The past week's pig iron selling was the smallest in cometime, but furnaces are comfortable, due to the recent heavy business. Furnaces either are out of the market or indifferent toward selling. A price of $24, base furnace, now seems the minimum on foundry iron, plus $1 differentials for silicon. On some second quarter tonnages $25, base furnace has been done. Two sales of round lots of basic in the past week establish this grade at $24 to $24.50 delivered. Moderate sales of low phosphorus at unchange prices are noted. It is learned fully 25,000 tons of English low phosphorus iron was sold during recent selling movement along the Atlantic coast around $25.25 to $26 duty paid tidewater. Now it is difficult to shade $26.50. Virginia foundry iron continues at $24 to $25, base furnace, plus 50-cent silicon differentials.

Market Is Less Atcive

Cincinnati, Jan. 6.—While the pig iron market is strong, business is not as active as before the holidays. Offerings by furnaces are plentiful and special efforts are being made to place additional tonnages. Prices are steady at current schedules. Northern iron ranges from $22 to $22.50, Ironton base, while southern iron is firm at $20 Birmingham, although the Tuscaloosa Co. is asking $20.50. It is reported that the Sloss-Sheffield Steel & Iron Co. will consider business for shipment in the second quarter at $21, furnace. The outstanding transaction of the week was the sale of 1000 tons of northern iron to the Parkersburg Rig & Reel Co. for its Pomeroy, O., plant. The tonnage was bought in southern Ohio at $22.50 base. The Ewald Iron Co., Louisville, Ky., closed on its inquiry for 300 tons of low phosphorus iron, while three foundries at Richmond, Ind., jointly bought 400 tons of northern iron for prompt shipment. Other sales ranged from a carload to 150 tons.

Prices Present and Past

Representative market figures yesterday, and for last month, three months ago and one year ago

	Jan. 7, 1925	Dec., 1924	Oct., 1924	Jan., 1924
PIG IRON				
Bessemer valley, del., Pitts.	$24.26	23.51	21.76	24.66
Basic, valley	21.50	20.75	19.00	21.40
Basic, eastern del., eastern Pa.	24.25	23.25	20.00	22.50
*No. 2 foundry, del. Pitts.....	23.76	22.61	21.26	24.16
No. 2 foundry, Chicago	24.00	22.40	20.50	23.70
*Southern No. 2, Birmingham..	20.00	19.80	17.50	21.60
*Southern Ohio, No. 2, Ironton	22.00	21.80	20.00	22.90
**No. 2X, Virginia furnace	24.50	24.50	24.50	25.00
**No. 2X, eastern, del. Phila..	25.76	24.88	21.36	24.26
Malleable, valley	22.00	21.10	19.50	22.00
Malleable, Chicago	24.00	22.40	20.50	23.70
Lake Superior charcoal, Chicago	29.04	29.04	29.04	29.04
Gray forge, val., del Pittsburgh	23.26	22.01	20.76	23.56
Ferromanganese, del., Pitts....	114.79	109.79	104.79	113.79
SEMIFINISHED MATERIAL				
Sheet bars, bessemer, Pittsburgh	39.00	37.75	37.20	42.50
Sheet bars, open-hearth, Pitts....	39.00	37.75	37.20	42.50
Billets, bessemer, Pittsburgh....	37.00	35.60	36.60	40.00
Billets, open-hearth, Pittsburgh	37.00	35.60	36.60	40.00
FINISHED MATERIAL				
Steel bars, Pittsburgh	2.10	2.10	2.00	2.40
Steel bars, Chicago	2.10	2.10	2.00	2.50
Steel bars, Philadelphia	2.32	2.32	2.32	2.72
Iron bars, Philadelphia	2.47	2.42	2.32	2.57
Iron bars, Chicago mill	2.00	2.00	2.10	2.40

*1.75 to 2.25 silicon. **2.25 to 2.75 silicon.

	Jan. 7, 1925	Dec. 1924	Oct., 1924	Jan., 1924
FINISHED MATERIAL (Continued)				
Beams, Pittsburgh	2.10	2.05	2.00	2.50
Beams, Philadelphia	2.32	2.32	2.12	2.72
Beams, Chicago	2.20	2.20	2.00	2.60
Tank plates, Pittsburgh	2.00	1.90	1.80	2.50
Tank plates, Philadelphia	2.32	2.22	1.92	2.72
Tank plates, Chicago	2.20	2.20	2.00	2.60
Sheets, blk., No. 28, Pittsburgh	3.50	3.50	3.40	3.75
Sheets, blue anl., No. 10, Pitts.	2.70	2.65	2.60	2.95
Sheets, galv., No. 28, Pittsburgh	4.75	4.65	4.60	4.95
Sheets, black, No. 28, Chicago..	3.75	3.75	3.65	4.10
Sheets, blue anl. No. 10, Chicago	2.85	2.85	2.85	3.20
Sheets, galv. No. 28, Chicago	4.90	4.90	4.75	5.20
Wire nails, Pittsburgh	2.85	2.80	2.75	3.00
Wire nails, Chicago	3.00	3.00	2.90	3.35
COKE				
Connellsville furnace, ovens	4.50	3.70	3.00	3.80
Connellsville foundry, ovens	5.75	4.60	4.00	4.35
OLD MATERIAL				
Heavy melting steel, Pittsburgh	22.50	21.00	18.40	21.10
Heavy melting steel, eastern Pa.	21.00	20.50	17.20	18.15
Heavy melting steel, Chicago ...	19.75	18.65	16.25	17.40
No. 1 wrought, eastern Pa.	21.50	20.10	18.75	20.10
No. 1 wrought, Chicago	19.75	18.75	15.95	17.50
Rails for rolling, Chicago	21.75	19.90	17.20	18.90

Composite Market Average

Representing the Combined Average Prices Per Ton of Fourteen Leading Iron and Steel Products Yesterday, One Week, One Month, Three Months, One Year and Ten Years Ago.

Jan. 7, 1925	Dec. 31, 1924	Dec., 1924	October, 1924	Jan., 1924	Jan., 1915
$40.92	$40.70	$40.21	$38.65	$43.26	$21.90

Products Included Are Pig Iron, Billets, Slabs, Sheet Bars, Wire Rods, Steel Bars, Plates, Structural Shapes, Black, Galvanized and Blue Annealed Sheets, Tin Plate, Wire Nails and Black Pipe

ern iron is unchanged at $20, Birmingham, but sales are light. Charcoal iron is unchanged at $26, furnace. Low phosphorous iron is $34 to $34.50, delivered. One western maker of silveries virtually is out of the market. The quotation on 14 per cent has been advanced by one maker to $42.

St. Louis Melters Buying

St. Louis, Jan. 5.—Sellers of pig iron are concerning themselves principally with shipments as there have been numerous requests for expedited deliveries and some anticipations of January quotas. Some melters who believed their stocks would easily carry them to the middle of January find themselves in need.

Prices continue strong, and premiums for spot shipment have been obtained in a number of recent transactions. No. 2

Southern Market Strong

Birmingham, Ala., Jan. 5.—It is understood several round tonnages of pig iron have been sold by southern furnace interests. Prices range from $20 to $20.50, base furnace. The Sloss-Sheffield Steel & Iron Co. has blown in two furnaces and is now starting work on another furnace. The Tennessee Coal, Iron & Railroad Co. is getting the old Oxmoor blast furnace in condition for operation. The furnace has not been in blast since the war. Within 90 days the company's new steel mill, with four open hearth furnaces, will be ready for operation and there will be extra requirements for basic iron. Fifteen blast furnaces in Alabama are on foundry iron, nine on basic and one on ferromanganese.

Iron and Steel Prices

SCRAP PRICES, PAGE 182; WAREHOUSE, ORE, PAGE 178; NUTS, BOLTS AND RIVETS AND PIPE PRICES, PAGE 184

Pig Iron

Prices per gross ton

Bessemer, valley	$22.50 to 23.00
Bessemer, Pittsburgh	24.26 to 24.76
Basic, valley	21.50 to 22.50
Basic, Pittsburgh	23.26 to 24.26
Basic, Buffalo	22.50 to 23.00
Basic del., eastern Pa.	24.00 to 24.50
Malleable, valley	22.50 to 23.00
Malleable, Pittsburgh	24.26 to 24.76
Malleable, Cleveland, del.	24.00 to 24.50
Malleable, Chicago	24.00 to 24.50
Malleable, Buffalo	23.00
Malleable, del., eastern Pa.	25.50 to 27.01

FOUNDRY IRON SILICONS

No. 2 Northern	**1.75 to 2.25**
No. 2 Southern foundry	**1.75 to 2.25**
No. 2X Eas'n and Virgina	**2.25 to 2.75**
No. 1X Eastern	**2.75 to 3.25**
No. 1 Chicago	**2.25 to 2.75**
No. 2 foundry Eastern	**1.75 to 2.25**

No. 1X, eastern del., Phila.	26.76 to 27.26
No. 1X, Buffalo	24.50
No. 1 foundry, Chicago	25.00
No. 2 foundry, valley	22.50 to 23.00
No. 2 foundry, Pittsburgh	24.26 to 24.76
No. 2 foundry, Buffalo	23.00
No. 2 foundry, Chicago	24.00 to 24.50
No. 2 foundry, Granite City	24.00 to 24.50
No. 2 foundry, Ironton fur.	22.00 to 23.00
No. 2 foundry, Cleveland, del.	24.00 to 24.50
No. 2 foundry, del., Phila.	24.76 to 25.26
No. 2 foundry, N. J., tidewater	25.39 to 25.64
No. 2X, eastern del., Phila.	25.76 to 26.26
No. 2X, eastern del., Phila	26.39 to 26.64
No. 2X, eastern del., Boston	27.65
No. 2X, foundry, Buffalo fur.	23.50
No. 2X, Buffalo, del., Boston.	27.91 to 28.41
No. 2 southern, Birmingham	20.00 to 20.50
No. 2 southern, Cincinnati	24.05
No. 2 southern, Philadelphia	27.80
No. 2 southern, Chicago	26.01
No. 2 southern, Cleveland	26.01
No. 2 southern Boston (rail and water)	26.91
No. 2 southern, St. Louis	24.17 to 25.17
No. 2X, Virginia furnace	24.50 to 25.50
No. 2X, Virginia, Phila.	29.67 to 30.17
No. 2X, Virginia, Jersey City	30.04 to 30.54
No. 2X, Virginia, Boston	30.42 to 30.92
Gray forge, eastern Pa	24.00 to 25.00
Gray forge, val. del., Pitts.	23.26 to 24.26
Low phos., standard, valley	29.00 to 29.50
Low phos., standard, Phila.	29.79
Low phos., Lebanon, furnace	26.00
Charcoal, Birmingham	30.00
Charcoal, Superior, Chicago	29.04

Silvery iron, Jackson county, Ohio, furnace, 7 to 8 per cent, $29.00; 8 to 9 per cent, $30.50; 9 to 10 per cent; $32.50; 10 to 11 per cent, $34.50; 11 to 12 per cent, $37.00; 12 per cent, $39.50.

Bessemer ferrosilicon, Jackson county, Ohio, furnace, 10 to 11 per cent, $39.50; 11 to 12 per cent, $42.00; 12 to 13 per cent, $44.50.

Ferroalloys

†Ferromanganese 78 to 82 per cent, tidewater, or furnace first hand and resale	$110.00
Ferromanganese delivered Pittsburgh	114.79
Spiegeleisen 19 to 21 per cent domestic furnace or tidewater	31.00 to 33.00
Ferrosilicon, 50 per cent contract freight allowed	85.00
Ferrotungsten standard, cents per pound contained	85.00 to 87.00
Ferrochrome, 60 to 70 chromium, 6 to 8 carbon, cents per pound contained, del.	11.50
Ferrovanadium, 30 to 40 per cent per pound estimated, according to analysis	3.60 to 3.75
Ferro-carbon-titanium, car lots, producer's plant, net ton	200.00

†Duty paid.

Coke

Beehive, Ovens
Prices per net ton

Connellsville, furnace	4.25 to 6.00
Connellsville foundry	5.50 to 6.50
New river foundry	8.50 to 9.00
Wise county furnace	4.00 to 4.25
Wise county foundry	4.50 to 5.00
Alabama furnace	4.00 to 4.50
Alabama foundry	4.50 to 5.00
By-Product	
Foundry, Newark, N. J., del.	**$10.41**
Foundry, Chicago, ovens	**10.75**
Foundry, New England del.	**11.50**
Foundry, St. Louis	**11.00**
Foundry, Granite City, Ill.	**9.00**
Foundry, Alabama	4.56 to 5.00

Semifinished Material

Prices per gross ton

BILLETS AND BLOOMS
4 x 4-inch and larger

Pittsburgh and Youngstown	$37.00 to 38.00
Philadelphia	42.80 to 43.80
Chicago	35.00 to 38.00
Forging, Pittsburgh	42.00 to 43.00
Forging, Philadelphia	47.80 to 48.80
SHEET BARS	
Pittsburgh and Youngstown	39.00 to 40.00
SLABS	
Pittsburgh	37.00 to 38.00
Youngstown	36.00 to 37.00
WIRE RODS	
¼-inch and finer	
Pittsburgh	$48.00
Cleveland	48.00
Chicago	49.00 to 51.00

Standard extras, $2.50 per ton over ¼-inch; $5 for screw stock; $15 for acid wire rods. Carbon extras, $3 for 0.20 to 0.40; $5 for 0.41 to 0.55; $7.50 for 0.56 to 0.75; $10 over 0.75.

SKELP

Grooved skelp, Pittsburgh	2.00c to 2.10c
Universal skelp, Pittsburgh	2.00c to 2.10c
Sheared skelp, Pittsburgh	2.00c to 2.10c

Structural Shapes

Prices per pound

Pittsburgh	2.10c
Philadelphia	2.32c to 2.42c
New York	2.34c to 2.44c
Chicago	2.20c
Cleveland	2.19c to 2.29c
Birmingham	2.25c to 2.30c

Steel Plates

Pittsburgh	2.00c to 2.10c
Philadelphia	2.32c to 2.42c
New York	2.34c to 2.44c
Chicago	2.20c
Cleveland	2.14c to 2.19c
Birmingham	2.20c to 2.30c

Iron and Steel Bars

Pittsburgh, soft steel	2.10c
Pittsburgh, cold finishing	2.25c
Pittsburgh, forging quality	2.35c
Philadelphia, soft steel	2.32c to 2.42c
New York, soft steel	2.34c to 2.44c
Chicago, soft steel	2.10c
Cleveland, soft steel	2.29c
Birmingham, soft steel	2.25c to 2.30c
San Francisco, soft steel	2.60c
Pittsburgh, refined iron	2.90c to 4.50c
Pittsburgh, reinforcing billet	2.10c
Chicago, rail steel	2.03c
Mill, rail steel	1.90c to 2.00c
Philadelphia, common iron	2.47c
New York, common iron	2.49c
Chicago, common iron	2.00c to 2.05c

Hoops, Bands, Strip

Prices per pound f.o.b. mills

Hoops, Pittsburgh, under 3 in.	2.40c to 2.50c
Hoops, Pittsburgh, 20 gage, under 1 in	2.75c to 3.75c
Bands, Pittsburgh	2.40c to 2.50c
Hot rolled strip steel, Pittsburgh stamping quality	2.25c
Cold rolled strip steel, hard coils, 1½ inches and wider by 0.100-inch and heavier, base, Pittsburgh, Cleveland	4.15c

Chicago and Worcester, Mass. $3 per ton higher.

Cold Finished Steel

Prices per pound

Cold finished steel bars, drawn or rolled Pittsburgh, Chicago, carloads	2.80c
Less carloads	3.05c
Steel shafting, turned and polished Pittsburgh, Chicago	2.80c

Screw stock base Cleveland $1 higher; and Worcester $3 higher than Pittsburgh and Chicago.

Rails, Track Material

Standard bessemer rails, mill	$43 00
Standard open-hearth rails, mill	43.00
Relaying rails, St. Louis	27.00 to 32.50
Relaying rails, Pittsburgh	27.00 to 30.00
Light rails, 25 to 45, mill	1.80c
Angle bars, Chicago base	2.75c
Spikes, railroad, Pittsburgh	2.90c
Spikes, small railroad, 7/16-inch and smaller, Pittsburgh	3.20c
Spikes, boat and barge, Pitts.	3.25c
Spikes, railroad, Chicago	2.90c
Track bolts, Pitts. standard	3.75c to 4.00c
Track bolts, Chicago	3.90c
Tie plates, Pittsburgh	2.35c to 2.50c
Tie plates, Chicago	2.35c

Spike, tie plate and truck bolt prices for carlots.

Wire Products

To Jobbers in Carloads
Prices per pound

F.o.b. Cleveland and Pittsburgh base	
Wire nails	2.85c
Galv'd nails, 1-inch and over	5.10c
Plain wire	2.60c
Annealed wire	2.75c
Galvanized wire No. 9 gage	3.20c
Barbed wire, painted	3.30c
Barbed wire galvanized	3.55c
Polished staples	3.30c
Galvanized staples	3.55c
Coated nails, count keg	2.25c
Woven wire fencing (retailers) 12½ gage, 26-in. high 7 bars and 12-in. stays per 100 rods, f.o.b. Pittsburgh	$20.56

Joliet, DeKalb and Waukegan, Ill., $2 per ton over Cleveland-Pittsburgh base on products made there. Worcester, Mass., and Fairfield, Ala., $3 higher. Duluth $7 higher. Chicago delivered price $3 higher, Anderson, Ind., $1 higher.

Sheets

Prices per pound

SHEET MILL BLACK	
No. 28, Pittsburgh base	3.50c to 3.60c
No. 28, Philadelphia, delivered	3.82c to 3.92c
No. 28, Gary, Indiana Harbor	3.70c
No. 28, Chicago, delivered	3.75c
TIN MILL, BLACK	
No. 28, Pittsburgh base	3.60c
No. 28, Gary base	3.70c
GALVANIZED	
No. 28, Pittsburgh, base	4.75c
No. 28, Philadelphia, delivered	4.92c to 5.07c
No. 28, Gary Indiana Harbor	4.85c
No. 28, Chicago, delivered	4.90c
BLUE ANNEALED	
No. 10, Pittsburgh base	2.70c
No. 10, Philadelphia, delivered	3.02c to 3.12c
No. 10, Gary, Indiana Harbor	2.80c
No. 10, Chicago, delivered	2.85c
AUTOMOBILE SHEETS	
No. 22, Pittsburgh, base	4.75c

Tin Plate

Prices per 100-pound box, Pittsburgh

Tin plate, coke base	$5.50

Gary, Ind. base 10 cents higher

Iron and Steel Pipe

Base Discounts Pittsburgh and Lorain, O. to Jobbers in Carloads

	Black	Galv.
1 to 3-inch, butt steel	62	50½
1 to 1½-inch, butt iron	30	13

Indiana Harbor, Ind., and Evanston, Ill., 2 points less and $4 per ton higher. Chicago delivered 2½ points less and $5 per ton higher.

Boiler Tubes

Less Carload Discounts—Carloads 4 Points Additional—f.o.b. Pittsburgh Mills

Steel 3¼ to 3¾-inch	38½
Charcoal iron, 3¼ to 4½-inch	5
Seamless hot rolled, 3½ to 3¾-inch	35

Chain, Piling, Cut Nails

Prices per pound

Chain, 1-in. proof coil, Pitts.	6.25c
Sheet piling base, Pittsburgh	2.00c to 2.15c
Cut nails, f.o.b. mills	2.90c

Hot Rolled Alloy Steels

Price per pound, Pittsburgh base

S. A. E. Series—	
2300 (3½ per cent nickel)	4.75c
3100 (nickel chromium)	3.65c to 3.75c
6100 (chrome vanadium)	4.50c to 4.75c
6100 (Chrome vanadium spring)	4.00c to 4.25c
9250 (Silico manganese spring)	3.15c to 3.50c

Billets—4 x 4 to 10 x 10, gross ton at net ton bar price; under 4 x 4 to 2½ x 2½-inch, $5 higher.

Chicago base $2 per ton above Pittsburgh.

Scrap Strong and Quiet

Prices Advancing on Each Sale as Melters Cover Aggregate of Heavy Tonnage—Level Being Raised Steadily—Supply Moderate

SCRAP PRICES, PAGE 182

Chicago, Jan. 6.—Dealers in iron and steel scrap have been paying each other and the railroads as high as $20.25 for heavy melting steel but the top price yet paid by a consumer is $20. The supply of steel, like that of other grades, is diminishing and this is a decided bull factor. Comparatively little steel is left in yards.

Both the cast grades are much more active and No. 1 machinery has moved up to $23 to $23.50. Activity in malleable is fair, with the railroad grade advanced to $21 to $21.50. The low phos grades are quiet.

The iron and steel scrap market as a whole is on the level of $19.75 to $20.25 for heavy melting steel. Railroad offerings include 4150 tons by the Illinois Central and 2200 tons by the G. W. Jenings Co.

Eastern Users Buying

New York, Jan. 6.—Fully 15,000 tons of heavy melting steel have been bought by some of the larger consumers during the past week, including the Lukens Steel Co., the Alan Wood Iron & Steel Co., the Eastern Steel Co., and the Worth Steel Co. Dealers are covering on shipments to Claymont, Del., at $20.50, delivered; to Conshohocken, Pa., $19.50; to Coatesville, Pa., and Pottsville, Pa., $20. On shipment of railroad steel or the equivalent to Bethlehem, they are paying around $18.50, delivered. Demand at the moment is active, most mills being covered about 30 days ahead. The local dealers' market on mixed borings and turnings is strong, on buying for shipment to Birdsboro, Pa., at around $14.50 to $15, delivered.

Market Reflects Strength

Philadelphia, Jan. 6.—Iron and steel scrap reflects all the characteristics of a strong market. Consumers are getting large shipments on high priced orders and in some cases dealers are asked to discontinue shipments temporarily. On old low priced orders, shipments are correspondingly small. Large dealers similarly complain of the difficulty of getting shipments from small dealers on low price contracts. Generally small dealers are holding scrap and it is more difficult to buy than in a long time. Large consumers bought little during the past week and as a result small lots here and there came onto the market at somewhat lower prices but the level generally is unchanged and some grades are higher.

Pittsburgh Market Steady

Pittsburgh, Jan. 6.—After a recent flurry in the scrap market, the trade has settled back into another quiet period of waiting. Adjustments are being made and some shipments on contracts are getting ahead. During the past two weeks or so, about 75,000 tons of steel scrap were bought by four mills in this district, the heavy melting steel bringing $22 to $22.50. Mills in the Warren-Massillon-Canton, O., territory are understood to have paid $22.50 to $23 and sellers believe that the next transactions will be upon similar bases here although these are not expected to develop before the end of January or early in February. Some activity is noted in cast grades, cast iron borings being up $1, to $17.50 to $18. Heavy breakable cast has advanced 50 cents, to $19 to $19.50. Railroad malleable, agricultural malleable and stove plate are up 50 cents per ton and some sales of rails for rolling have been made at a 50-cent advance from the previous selling price, at $23 to $23.50. The latest sales of bundled sheets brought $19.50 to $20, previous ones to a sheet producer on the Ohio river having been at about $19.25.

The Pennsylvania railroad closes bids tomorrow on 35,383 tons including 4065 tons of heavy melting steel, 3250 tons of wheels, 3830 tons of No. 1 and No. 2 wrought, and 7275 tons of unsorted steel car and locomotive tender material. A supplementary list offers 1923 tons additional.

Speculation at Buffalo

Buffalo, Jan. 7.—Although new business is not developed with the new year as rapidly as dealers had anticipated with minor exceptions material is firmly held and there is considerable speculation in anticipation of advances. Little inquiry for heavy melting steel is apparent. Dealers have made purchases of No. 1 steel as high as $20.50, but only in relatively small quantities. Whether these purchases were of a speculative nature or whether the tonnage was for delivery on unfilled contracts was not stated. One melter will pay $16.75 for stove plates, according to reports. No. 1 busheling commands a top price in this district, sales having been made at $18.50 and possibly at $19. Car wheels are strong at $20.50 and upwards. There is no great demand for other material although nominal price changes of 25 to 50 cents a ton are announced by dealers.

Cincinnati Market Quiet

Cincinnati Jan. 5.—Little of interest is apparant in the iron and steel scrap market here. Some buying is being done in small lots to fill immediate requirements, but steel works are not buying in large quantities, although dealers still have some contracts on which shipments are to be made. While dealers differ there is no doubt the market presents a stronger front than before the holiday season. Dealers have marked up their lists an average of 50 cents a ton. Heavy melting steel is quoted at $16.50 to $17 per gross ton, Cincinnati, the highest level in several months. A fair demand exists here for short rails, while iron rails are a drug on the market. Many dealers are buying materials

(*Concluded on Page* 136)

Need More Semifinished

Inquiries for Additional Lots Coming Out for Finishing Mills Not Fully Covered—Valley Producers Sold Up—Prices Strong

SEMIFINISHED STEEL PRICES, PAGE 127

Youngstown, O., Jan. 6.—Producers of semifinished material in this district are sold out for first quarter on all grades. Inquiry for billets, slabs and sheet bars is lacking but if steel were available no difficulty would be experienced in turning tonnages of these commodities. In the absence of inquiry sheet bars are quotable at $40, billets under 4 x 4 inches and slabs at $38.50 and small billets at $40, Youngstown.

Inquiring for Additional Lots

Pittsburgh, Jan. 6.—Conversion mills while buying heavily for this quarter are even at this early date finding that they have not anticipated sufficient tonnage. In many cases their enterprises are improving each week and their consumption is mounting beyond expectations. Smaller mills are inquiring for additional lots of sheet bars, billets or slabs in amounts up to 500 tons or slightly larger at a time. More important mills are asking for lots of 1000 tons or more. Some cannot obtain any more tonnage from their regular source of supply, several mills being filled up for their entire output during the first quarter. Prices are manifesting considerable strength and while $38 possibly may soon be the minimum on rerolling billets and slabs, $37 is quoted as the present minimum on large tonnages. From $1.50 to $2 is named as a size differential. Forging billets at $5 higher are fairly active as regards specifications against contracts. New business is slight. Sheet bars are quoted at $39 to $40, with the possibility of the lower figure shortly disappearing. New wire rod orders are scarce although shipments are going ahead on contracts at lower figures prior to the recent advance to the $48 price. Skelp cannot now be had at less than 2.00c and some are quoting 2.10c or higher. Inquiries are scarce, most negotiations being between producers and their customers.

Billet Sales Small

Philadelphia, Jan. 6.—Billet sales involve only small or moderate lots. Rerollers are firm at $37 to $38, base Pittsburgh, with the higher price paid in some instances. Forging billets are $42 to $43, Pittsburgh. Some steelmakers refuse to sell billets, due to need for steel in their own finishing mills. Wire rods are $47 to $48 Pittsburgh.

Sheet Bars Sold at $40

Cleveland, Jan. 6.—Strength features the market for semifinished material, although current buying is light. On a small tonnage of sheet bars for shipment into the Pittsburgh district the price of $40 Cleveland, applied during the past week. It is understood this was a sample lot, the buyer wishing to contract for a larger tonnage on the

same basis provided the first shipment is satisfactory. The seller booking this order holds to $40, Cleveland or valley, for sheet bars, billets and slabs.

Ferrosilicon Higher

Advance on 50 Per Cent Grade Is $2.50—Ferromanganese Steady

FERROALLOY PRICES, PAGE 127

New York, Jan. 6.—Business in ferromanganese has not picked up and sales are averaging several hundred tons per day. The price is firm at $110 duty paid tidewater. Only small sales have been made in Spiegeleisen during the past week. The market in this metal continues at $31 to $33 furnace for the 20 per cent grade.

The price of 50 per cent ferrosilicon has been advanced $2.50 a ton to $85, delivered. Sales have been made at the new price, both for immediate shipment and over the remainder of the year. One of the makers of 14 to 16 per cent ferrosilicon has advanced its quotation $2 to $44, furnace, but another large maker continues to quote $42, furnace. Prices of other alloys are unchanged as published. Indian chrome ore has been offered at $19 a long ton, c.i.f. Atlantic port, for February-March shipment from India. Wolframite sold in substantial lots at $9 a short ton unit.

Users Well Covered

Pittsburgh, Jan. 6.—Since practically all consumers of ferroalloys are under contract, it is only on occasions that a user finds it necessary now to enter the market. These contracts are mostly for first quarter although some run through second quarter. One order was received by a domestic producer of ferromanganese this past week involving 125 tons. On this order, practically the first since the price advance went into effect, the new figure of $110, Atlantic seaboard base, was obtained. Importers report some small sales of English material likewise at $110, c.i.f. Atlantic seaboard. One inquiry now current calls for 12½ tons; $130 or $135 is quoted on such small lots. While 50 per cent ferrosilicon contracts were taken, largely for the entire year, at $82.50 the spot market quotation now is $85, freight allowed, but only one or two single carload inquiries are coming out. The two large producers are sold out for several months which makes for scarcity. The Carnegie Steel Co. and the Bethlehem Steel Corp., both bought twice as much for 1925 as they did for 1924.

Ferrotungsten is quoted at 92 cents minimum although some offers at 90 cents and lower continue to be made elsewhere. One sale of 1000 pounds made here late last week was at $1.15. Ferrovanadium is scarce. While one inquiry for 5000 pounds came out last week and one interest quoted $3.60, the delivery promised was not satisfactory so the order went elsewhere. Spiegeleisen continues to manifest price strength, mainly because producers are well obligated and are not interested in additional business except at higher figures. Two or three orders involving 100 to 300 tons were taken and one involving 600 tons of 19 to 21 per cent material for first half brought $33.

Coke Situation Confused

Some Distress Sales Caused by Resumption of Ovens Without Sufficient Backlogs—More Furnaces in Market for First Quarter

COKE PRICES, PAGE 127

Pittsburgh, Jan. 6.—The beehive coke situation still is confused. Spot market sales are noted around $5 and $5.25. Others at prices below $4.25 reflect distress features. One sale involving 85 carloads brought $4; another of 20 carloads $4.10, and a third of 20 carloads $4.15 to $4.25. The regular spot market is quoted $4.25 to $5. One sale for export involving 640 tons shows a seaboard delivered figure equivalent to slightly above $5 Connellsville. Some producers starting ovens without backlogs have been forced to make sales at concessions. Steel companies continue to buy filling-in tonnages. The Bethlehem Steel Co. purchased a large tonnage for first quarter. The Pittsburgh Steel Co. bought a smaller lot last week below $5. The Youngstown Sheet & Tube Co. is expected to buy a large tonnage this week. The Hanna Furnace Co. closed a tonnage for first half, details being withheld. It is understood the price was above $5. Several furnaces, including the Sharpsville are in the market for second quarter. Some producers are disinclined to quote that far ahead. Others are naming $5.50 and $6. Limited tonnage is available for first quarter at $5, making the contract market quotable at $5 to $6. Foundry coke activity is growing somewhat. A few spot sales are noted at $5 to $6. Two single carloads are bringing the maximum figure. The contract market is quoted at $5.50 to $6.52. Contracts for four and six carloads respectively have been taken at $5.35 plus $1 for the wage clause.

Production of coke in the Connellsville region for the week ended Dec. 27 was 162,710 tons, as compared with 151,170 tons the preceding week, according to the *Connellsville Courier*.

New England Price Holds

Boston, Jan. 6.—By-product coke still is offered New England foundries at $11.50 delivered despite advances in beehive prices and gradual improvement in foundry activity. Shipments are reported as well sustained by the local producers.

Price Tendency Is Upward

New York, Jan. 6.—Connellsville spot beehive foundry coke continues to tend upward. The present range as reflected in business here is $5.25 to $6, Connellsville. The market is not considered as having become stabilized at this level. The volume of business in spot foundry coke has improved here but still is only fair. Medium sulphur furnace coke now is being quoted at $4.25 to $4.50, Connellsville. On standard by-product foundry coke the market continues $10.41 delivered at Newark and other northern New Jersey consuming points; this level has prevailed since April 1, 1924.

Foundry Specifications Heavy

Cincinnati, Jan. 6.—Coke sales are confined chiefly to small lots for prompt shipment. The largest recent transaction involves 1000 tons of Pocahontas furnace coke for a Virginia pig iron producer at a price said to be $4 ovens. Foundry coke specifications for January already exceed those for December by a good margin. Production is increasing in the Wise county and New River districts. Sales of Connellsville coke are not so pronounced as before the holiday season. Prices on all grades and varieties remain unchanged. The producer of Indianapolis by-product coke has announced a continuation of its present prices for shipment this month.

Foundry Demand Brisk

St. Louis, Jan. 5.—Demand for coke continues brisk, with foundry grades particularly active. A large volume of contracting for 1925 requirements is noted, mainly, in the form of renewals with by-product manufacturers. The increased melt of pig iron is reflected in a heavier call for prompt delivery. By-product producers report an excellent movement of industrial coke, with smelters and water gas interests taking large tonnages.

Market in South Improving

Birmingham, Ala., Jan. 5.—New coke business is noted and producers in this district believe the market is improving. Quotations continue at $4.50 to $5.00. Local consumption shows signs of reviving. Work will start before the end of this month on the 57 oven by-product coke oven plant for the Republic Iron & Steel Co. at East Thomas near the company's blast furnaces. The 25 additional ovens of the Alabama By-products Corp. will be completed by March 1. Upwards of 40 by-product ovens are under repairs in the Birmingham district.

Coolidge To Hear of Law Enforcement Work

Elbert H. Gary, chairman, United States Steel Corp., will preside over the committee that is to breakfast with President Coolidge at the White House Jan. 8. The president will be given a report of the annual meeting and dinner of the Citizen's Committee of One Thousand for Law Enforcement. The annual meeting of the committee will be held Wednesday afternoon, Jan. 7, at the Waldorf-Astoria, New York, and will be followed by the dinner. The purpose of the meeting is to arouse the country to a realization of the increasing need for law observance.

Wickwire Plans Effective

The Wickwire Spencer Steel Corp. has announced that sufficient bonds have now been deposited to make effective the reorganization plans which have been under consideration for some time. The total of bonds deposited has reached $10,200,000 and funds sufficient to meet the January interest payment have been set aside.

Bar Delivery Drops Back

Mills Find Difficulty in Giving Satisfactory Delivery Dates—Price Firm at 2.10c, Chicago and Pittsburgh—Better Iron Demand

BAR PRICES, PAGE 127

Chicago, Jan. 6.—Rolling schedules for first quarter are not yet so tight that special needs of regular buyers of soft steel bars cannot be filled but in general business now being taken is for delivery 45 to 60 days hence. One interest is now taking only fill-in tonnage over first quarter and is not considering second quarter business. Another interest is taking orders at 2.10c, Chicago, but with delivery in turn. Pittsburgh district mills are taking more business in the so-called neutral territory owing to deferred delivery by Chicago district mills. Mills claim 2.10c, Chicago, as their minimum on soft steel bars.

Improvement in bar iron is conveyed by one local mill going to double turn yesterday. Demand for bar iron is not heavy but it is considerably in excess of early December. Bar iron is quoted at 2.00c to 2.05c, Chicago.

Rail steel bar business opened the week better than the average of the last half of December. The quotation still is 2.00c, mill, or 2.03c, delivered Chicago.

Specifying Is Renewed

Pittsburgh, Jan. 6.—After a temporary lull in specifications over the holidays, merchant steel bar sellers again are active and customers are sending in additional shipping instructions. One office reports that between the two holidays practically nothing was done but immediately thereafter several specifications for 200 to 1000 tons apiece were received. Some buyers of merchant steel bars are finding their own business has improved beyond anticipation and they find it necessary to order more material. The mills already are experiencing difficulty in naming satisfactory delivery dates prior to April 1 on some of the popular sizes. Quotations are firm at 2.10c, f.o.b. Pittsburgh district mills.

Refined iron bars are quoted at 2.90c to 3.00c, with a tendency to obtain the maximum figure on everything but exceedingly attractive orders. The buying rate is improving and the industry is much encouraged over prospects for 1925. Special refined iron is quoted at 4.00c to 4.50c.

Sales Gain 30 Per Cent

Cleveland, Jan. 6.—In common with plates and some other forms of finished material, steel bars are being sought by manufacturers who underestimated their requirements when they specified their January shipments from the mills. As a result, first quarter bookings are being revised and in many cases the corrected tonnage is considerably above that originally ordered. New business is developing rapidly, particularly in the automotive and general manufacturing fields. Prices are firm at 2.10c, Pittsburgh or 2.29c, Cleveland. The closing by local sellers of last month's books revealed the fact that December sales ranged from 30 to 40 per cent ahead of November's business.

Cold Finishing Activity High

Pittsburgh, Jan. 6.—The number of specifications from cold bar finishers on merchant bars, bears out their own statements that their business has improved. Customers are specifying freely against first quarter contracts on cold finished material, almost every consuming line being active. While the majority of shipments are being billed at 2.70c, the firm current market level is 2.80c and applies on any new business. One or two makers report a fair aggregate tonnage at this price during the past week or two.

Auto Makers Ready To Buy Bolts, Nuts

NUT AND BOLT PRICES, PAGE 184

Chicago, Jan. 6.—While it is too early to gage the first quarter, orders entered for bolts and nuts so far have been good. Both automobile and the farm implement industries appear to be improving, though slowly. Ford is due in the market this week. Hudson-Essex has an inquiry out, while Dodge has just bought and Chevrolet is specifying against its contracts. Users are accepting the new first quarter prices, according to makers, and the market is firm on the basis of 50, 10 and 10 off for large machine bolts.

Nut, Bolt Shipments Large

Pittsburgh, Jan. 6.—While specifications on nuts and bolts are perhaps slower than in December, shipments are higher this month. Producers are able to operate at 70 per cent of capacity on the average and may increase before the quarter is out. While much of the current business is on old contracts, some new business is coming in at the new delivered price, with which customers appear to be well satisfied.

In rivets, fair orders are coming through in carload quantities or larger and makers have enough business ahead to operate at 60 per cent or higher for five or six weeks. The 2.60c figure remains firm and may last throughout the quarter.

Order Volume Is Good

Cleveland, Jan. 6.—Bolt and nut makers are receiving a good volume of business and an advance of about 5 per cent in prices is likely within a short time. For the present, however, prices are firm at 50, 10 and 5 off to 50, 10 and 10 per cent off on large machine bolts.

Demand for rivets has improved considerably and prices are firm. Fourth quarter contracts have been fairly heavy and prospects are bright for continued improvement in buying.

Specify Heavily in Hoops

HOOP PRICES, PAGE 127

Pittsburgh, Jan. 6.—Some of the largest specifications coming to hot strip producers here are in hoop and band sizes. One of these received last week involved almost 300 tons for immediate rolling. There is a fair sprinkling of orders of this character and hoop and band demand is considered better than for regular hot strips. The market is quoted at 2.40c to 2.50c, the latter applying on the specific tonnage above referred to.

Tin Plate Bought

Large Can Maker Takes Requirements —Second Orders Expected

TIN PLATE PRICES, PAGE 127

Pittsburgh, Jan. 6.—Producers of tin plate continue to receive specifications, practically all customers having booked heavily for first quarter and some for first half. Shipments are proceeding at a high rate now that inventories have been taken. The American Sheet & Tin Plate Co. already has obligated itself for first half as far as Gary, Ind., mills are concerned but has some room for second quarter business at some of its Pittsburgh district plants. Before the quarter is out, it is expected that can companies, oil companies and other users will find that they have underestimated their requirements and will have to buy more tin plate. A few inquiries are developing from abroad involving up to 50,000 base boxes or more. The domestic price as announced for first quarter only, is unchanged at $5.50 per base box of 100 pounds, f.o.b. Pittsburgh district mills. Operations suffered somewhat during the holidays but the leading interest is back to slightly above 70 per cent and the independents are averaging around 85 per cent, one or two running practically full.

Big Order By Can Maker

New York, Jan. 6.—The American Can Co.'s order for tin plate requirements over the first half finally was placed with the American Sheet & Tin Plate Co. at a price understood to be $5.20 base Pittsburgh. The order calls for 4,500,000 boxes. The Continental Can Co. is understood to have placed its first half requirements at the same figure.

Strip Demand Awaits Auto Revival

STRIP PRICES, PAGE 127

Pittsburgh, Jan. 6.—The strip steel market is looking better every week, according to leading producers here. Specifications are at a high rate, over two-thirds of January's now due having been received. As a whole, the industry is not obligating itself beyond 60 to 75 per cent of its first quarter output, expecting that higher prices will give a slight profit to make up for recent losses. While the automotive industry is lagging other consuming lines are actively furnishing orders. Specifications from automotive and allied trades will perhaps be heavier after the New York automobile show. Strip mills are being operated at about 70 per cent in this vicinity. Cold strips are quoted firmly at 4.15c and while some cold rollers can buy hot strips for conversion at 2.25c, the 2.40c figure is easily obtainable from regular trade.

Western Demand Only Fair

Chicago, Jan. 6.—Demand for hot rolled strip steel is only fair, due partially to the caution with which the Detroit automotive interests are proceeding. An encouraging sign is that stocks

of cars in the hands of dealers are much lower than a year ago. The hot rolled strip quotation is 2.50c, Chicago, for 10 inches and over and 2.60c for under 10 inches.

Union Drawn Steel Co. Buys Eastern Plant

Pittsburgh, Jan. 6.—The Union Drawn Steel Co., Beaver Falls, Pa., has purchased outright the plant and holdings of the Frasse Steel Works, Inc., at Hartford, Conn., the largest cold finishing plant in the East, it was announced here Jan. 1. The Hartford works has a capacity of upward of 30,000 tons annually.

The transaction, which is one of the results of the abolition of Pittsburgh plus, does not involve the Peter A. Frasse Co., Inc., a jobbing company having warehouses in New York, Buffalo and Philadelphia. This company will continue to sell the products of the Hartford plant, the entire output of which will be used to serve the warehouses and trade in the New England states and the East.

The Union Drawn Steel Co. now has a chain of five cold drawn steel plants, two at Beaver Falls, one at Gary, Ind., at Hamilton, Ont., and at Hartford. The Hartford works was built in 1916. Its products include a full range of sizes of cold drawn and turned and polished steels, as well as a complete line of special shapes. The plant also has an extensive heat treating department. Installation of additional modern equipment for cold finishing purposes will be authorized and production increased to meet the increasing demand for cold finished products in that section.

The Union Drawn company is a pioneer in the cold drawn steel industry—the first shipment having been made from Beaver Falls, Aug. 15, 1889.

Operation Resumed at Puddling Plant

Youngstown, O., Jan. 6.—Two of the four mechanical puddling furnaces of the American Puddle Iron Co. at Warren, O., resumed operation this week. The plant was completed about one year ago. After approximately six weeks operation work was suspended to permit changes and alterations in the equipment. Tests of the wrought iron made during the initial run are said to be as uniform in quality as hand puddled material. The mechanical puddling machines were invented by E. L. Ford, who, for many years, has been associated with the steel industry in the Mahoning valley.

Donner Seeks Damages

Washington, Jan. 6.—The Donner Steel Co., of Buffalo and North Tonawanda, N. Y., has brought action in the District of Columbia supreme court against the interstate commerce commission as a step to recover damages from several railroads because of alleged refusal to "spot" its freight cars. The court is asked to order transferred from the files of the interstate commerce commission data contained in the complaint of the plaintiff against the Wabash, Grand Trunk, Pennsylvania, Michigan Central and other railroads.

Increasing Plate Tonnage

Some Buyers Find They Underestimated Their Needs—Car Orders Developing Larger Demand at Chicago—Prices Firmer

PLATE PRICES, PAGE 127

Pittsburgh, Jan. 6.—While it is true as for some time past that plate prices are not relatively strong, quotations are partaking somewhat of the strength seen in other steel products. While under normal circumstances and conditions plates possibly should be somewhat above bars and shapes, at 2.00c the present market's minimum, they are below since bars and shapes are quoted at 2.10c. Some makers of plates insist that they are not interested in additional plate tonnage except at the 2.10c figure or higher. One producer who until a week or 10 days ago quoted 1.95c and took some business at that figure, has advanced to a 2.00c minimum. The Carnegie Steel Co. reached that minimum last week, which with others will not now quote less even on extremely large tonnages. Fabricators are expecting that additional oil storage tanks will be bought for the Wortham, Tex., field, a total of 88 or 90 tanks having been distributed in recent weeks between fabricators here, Sharon, Pa., Youngstown, O., and Chicago. Bids are to be asked shortly by the United States engineers, Pittsburgh, on three steel barges, 80 x 26 x 5 feet, requiring about 1000 tons of steel.

Eastern Mills Asking More

Philadelphia, Jan. 6.—Eastern plate operations now range from 50 to 85 per cent of capacity. Some mills are on double turn and as a result makers are trying to move the price to a remunerative level. One maker withdrew all prices under 2.10c, Pittsburgh. The minimum now is 2.00c, with a growing percentage of the business at 2.10c. The Reading railroad placed about 1500 tons, but otherwise the market since the holidays has been quiet.

Buyers Under-Estimated Needs

Cleveland, Jan. 6.—With order books comfortably laden with orders and with encouraging business developing in all branches of industry, the firmer tendency on steel plates noted in this territory a week ago is well maintained. Material at less than 2.00c, Pittsburgh or 2.19c, Cleveland has disappeared and the market now rests at 2.00c to 2.10c, Pittsburgh or 2.19c to 2.29c, Cleveland, with several sellers holding firmly to the higher figure. Many buyers of plates who figured their first quarter needs some time ago are finding they under-estimated their requirements and are re-entering the market for additional tonnage. In a number of instances purchasers are increasing their January tonnage as much as 50 per cent over the original orders.

Car Business to Fore

Chicago, Jan. 6.—Oil storage tanks have given way to freight cars as the principal originator of plate business in the past week. The Baltimore & Ohio cars to be built in western shops will require about 35,000 tons of finished material, namely plates, while the 2000 Burlington cars, 1000 Missouri Pacific cars, 1000 Northern Pacific cars and 2000 Louisville & Nashville cars should bring demand for about 60,000 tons of finished material. One maker of plates booked 1000 tons for a tank fabricator this week. Plates are unchanged at 2.20c, Chicago.

PLATE AWARDS

1560 tons, plates, four 100,000-barrel tanks for Pan American Petroleum Corp., Los Angeles, to United States Steel Products Co.

1360 tons, plates, eight 37,000-barrel tanks for Pan American Petroleum Corp., Los Angeles, to Western Pipe & Steel Co.

900 tons, plates, three 80,000-barrel tanks for Associated Oil Co., San Francisco to Western Pipe & Steel Co.

900 tons, plates, three 80,000-barrel tanks for Associated Oil Co., San Francisco to Lacey Mfg. Co.

800 tons, plates, four 55,000-barrel tanks for Pan American Petroleum Corp., Los Angeles, to Western Pipe & Steel Co.

700 tons, oil storage tanks for General Petroleum Co., Parr Terminal, Oakland. Will be fabricated by General Petroleum Corp.

700 tons, plates, Dumbarton bridge, San Francisco Bay, to Moore Drydock Co.

400 tons, plates and shapes, mostly plates, for steel derrick barge for Haveside Co., San Francisco, to Pacific Coast Engineering Co.

350 tons, plates, and 50 tons shapes for Union Oil tanker, San Francisco, to Moore Drydock Co.

300 tons, plates, gas generators for Pacific Gas & Electric Co., San Francisco, to Moore Drydock Co.

289 tons, plates, pipe line for St. Helens, Oreg., to Coast Culvert & Flume Co.

250 tons, plates, Banta Carbona Irrigation District, Tracy, Calif., pipe line, to Western Pipe & Steel Co.

175 tons, pontoon and shore line pipe for United States Engineer's Office, San Francisco, to Pacific Coast Engineering Co.

125 tons, flange and copper bearing plates for 34-inch pipe line for Tacoma, Wash., to Williamette iron & Steel Works.

100 tons, 250,000-gallon water tower tank for El Centro, Calif., to Chicago Bridge & Iron Works.

PLATE AWARDS PENDING

250 tons, two barges for Associated Oil Co., San Francisco; bids this week.

Iron Ore Reservations Are Larger

Cleveland, Jan. 6.—First indications of a definite interest in the Lake Superior iron ore market appear this week in reservations made by certain consumers with their regular sources of supply. The reservations are much larger than the tonnages taken last year, estimated by some sellers to average about 50 per cent greater. In one exceptional instance the reservation represents an advance of 100 per cent.

Companies here with associated iron ore and pig iron interests have not held their meetings to determine the amount of ore that will be taken. Meanwhile furnace interest with ore on hand are marking up the values in inventories. More calls are received for dock ore for filling in purposes. Some contracting for lake transportation is noted; all signs point to early action.

Virtually no change in the volume of employment in New York state was noticeable in November, for the reason that seasonal decreases in other trades offset gains in the textile, wood and metal working industries.

Concrete Inquiries Gain

Despite Lack of Large Awards Reinforcing Bar Market Position Improves—Prices Show Strength—Figure Roadwork

REINFORCING BAR PRICES, PAGE 127

New York, Jan. 6.—Considerable delay continues to be reflected in placing of concrete reinforcing bar tonnages. While the 2.00c base Pittsburgh price has not disappeared entirely on concrete reinforcing bars for mill shipment, anything under 2.10c is unusual. On shipments out of Pittsburgh stocks the current figure is 2.40c base Pittsburgh. On local stocks the price now is 2.95c base delivered at all points in the metropolitan district and 3.05c base delivered in Westchester county.

It is expected that action will be taken this week on 6500 tons of bars for the Flatbush filtration plant and 650 tons of bars for the D. M. Read department store, Bridgeport. It also is expected that the general contract for the Western Electric buildings at Kearny, N. J., involving about 1000 tons of bars will be placed shortly.

Awards Few; Inquiries Numerous

Pittsburgh, Jan. 6.—Few awards involving reinforcing concrete bars, are being made but inquiries are fairly numerous. The price still is 2.10c with 2.30c to 2.40c applying on material out of warehouse stock.

Small Lots Still Rule

Cleveland, Jan. 6.—Concrete reinforcing bar demand still is confined to scattered small awards. Bourne-Fuller Co. booked 875 tons in three projects at Columbus and Sandusky, O., and Detroit. New billet bars are firm at 2.29c Cleveland or 2.10c Pittsburgh and no instances of shading have been noticed. Rail steel bars have firmed at 1.90c, mill, and shading of this quotation also is exceptional. New billet bars out of warehouse are going from 2.45c to 2.55c Pittsburgh and 3.10c Cleveland.

Much Work Being Figured

Chicago, Jan. 6.—Reinforcing bar sellers believe that the probability of an advance in prices within the next 30 days will bring in much pending business. Sellers look for mill prices on bars to advance $2 to $3 a ton and say reinforcing bars from Chicago warehouse will follow suit. Reinforcing bars are now quoted at 2.60c, Chicago warehouse, for carload business and 2.75c for less-carload business. Most sellers look for decidedly good business to open up early in 1925, threatened only by a possibility that labor may prove a deterrent by demanding higher wages.

Inquiries More Numerous

Cincinnati, Jan. 6.—Dullness again prevails in the local reinforcing concrete bar market, as few awards are being made. Inquiries are more numerous but few involve large tonnages. Large building programs are being launched by southern Ohio and northern Kentucky cities. The Max Penker & Sons Co. has been awarded the general contract for the addition to the Bethesda hospital, Cincinnati, which will require several hundred tons. Permits were issued the past week for the construction of an apartment house at Fourth and Lawrence street to cost $700,000; for the new home of the Electric Medical college and the Walnut Hills Methodist church. The price on bars for shipment out of Cincinnati warehouse continues at 3.30c.

CONCRETE CONTRACTS PLACED

Awards this week	6,055 tons
Awards last week	1,930 tons
Awards two weeks ago	3,230 tons

1700 tons, sewer for St. Paul, to the Kalman Steel Co., Northern States Construction Co., St. Paul, general contractor.

800 tons, Montgomery, Ward & Co., warehouse at Kansas City, Mo., to the Kansas City Bolt & Nut Co. Wells Bros. Construction Co., 53 West Jackson boulevard, Chicago, general contractor.

700 tons, Ballard Eagles' Temple, Seattle, to Pacific Coast Steel Co.

450 tons, Pennsylvania railroad dock at Sandusky, O., to Bourne-Fuller Co.

400 tons, Women's Club, Post street, San Francisco, to Badt-Falk Co.

300 tons, foundations for the 32-story building of the American Insurance Union, Columbus, O., to the Bourne-Fuller Co.

200 tons, Harding school, Des Moines, Iowa, to the Concrete Engineering Co.

170 tons, reservoir for Oak Park, Ill., to the Concrete Steel Co.

160 tons, municipal car barns San Francisco to Gunn, Carle & Co.

150 tons, Banta Carbona Irrigation District, Tracy, Calif., to Edw. L. Soule Co.

150 tons, First Congregational Church, Berkeley, Calif., to Steel Service Corp.

150 tons, Grant high school, San Jose, Calif., to Truscon Steel Co.

150 tons, Zellerbach Paper Co., loft building, Sansome and Clay streets, San Francisco general contract to John Spargo, 240 Montgomery street. Bars to Gunn, Carle & Co.

140 tons, Drake Bros. bakery, Clinton and Park avenues, Brooklyn, N. Y., to Joseph T. Ryerson & Sons Co., Inc. General contractor Thompson & Binger Co.

125 tons, work for the city of Detroit, to Bourne-Fuller Co.

110 tons, high school, Kewashkum, Wis., to American System of Reinforcing.

100 tons, Alcone Knitting Co., Mission & Bond Sts., San Francisco, to Edw. L. Soule Co.

100 tons, addition to hospital, Boston, to Barker Steel Co. Holt-Fairchild Co. general contractor.

CONCRETE CONTRACTS PENDING

1000 tons, Pier No. 50 for board of harbor commissioners, San Francisco. General contract to Clinton Construction Co.; steel not yet placed.

800 tons, 2-story superstructure for Terminal Warehouse, Terminal Wharf, China Basin, San Francisco. General contract to K. E. Parker Co., 519 California street; steel not yet placed.

750 tons, arsenal, Brooklyn, N. Y.; Commonwealth Engineering Corp. low on general contract.

600 tons, D. M. Read department store, Bridgeport, Conn.; general contract to Pardy Construction Co., Bridgeport.

550 tons, American Falls Dam, Bureau of Reclamation, American Falls, Idaho; bids in Jan. 22.

500 tons, buildings for General Petroleum Corp., Parr Terminal, Oakland, Calif.; bids in.

500 tons, lodge building, Boston; pending.

500 tons, Dumbarton bridge, San Francisco Bay, Healy & Tibbetts Co. general contractors, steel not yet placed.

400 tons, California State Automobile Association building, Van Ness and Hayes streets, San Francisco. General contract to P. J. Walker Co.; bids being received for bars.

276 tons, Sellwood bridge, Portland, Oreg.; bids in Jan. 7, 1925.

225 tons, Almo school, San Francisco; bids in.

210 tons, Alcone Knitting Co. factory, Mission and Bond streets, San Francisco. General contract to Cahill Bros. Bars will not be placed until after Jan. 1.

200 tons, Oakland Elks Club, Oakland, Calif.; bids in.

150 tons, bridge for the Baltimore & Ohio railroad at Snowdon, Pa.; bids to be taken in the spring.

150 tons, union county court house, Elizabeth, N. J.; revised bids being taken.

150 tons, alterations to Allegheny county courthouse, Pittsburgh; bids in.

138 tons, bridge over Pacific Electric Railway tracks, between McAllister and Pomeroy avenue, Los Angeles; bids in.

150 tons, St. Luke's hospital, Cedar Rapids, Iowa; general contract to J. & W. A. Elliot Co., Minneapolis.

125 tons, office building, Worcester, Mass.; bids being taken.

100 tons, alterations for Allegheny county courthouse, Pittsburgh; bids being taken.

100 tons, Dormont, Pa., grade school; bids being taken.

100 tons, grade school at Dormont, Pa.; bids being taken.

100 tons, bridge to span Chartiers creek at McKees Rocks, Pa.; bids closed by Allegheny county commissioners.

100 tons, bridges to span Pine run at Clairton, Pa.; and Still House run near Millvale, Pa.; bids closed Jan. 7 by Allegheny county commissioners.

100 tons, warehouse near the Manchester bridge, North Side, Pittsburgh, for the Standard Sanitary Mfg. Co.; bids close Jan. 10.

Tonnage unstated, 5-story factory for Eli Lilly & Co., 700 South Alabama street, Indianapolis. Plans by R. F. Daggett, Consolidated building, Indianapolis.

Tonnage unstated, 7-story sanitarium for the Lindlahr Nature Cure Sanitarium, 525 South Ashland boulevard, Chicago. Plans being prepared by James F. Denson, 64 West Randolph street, Chicago.

Tonnage unstated, 4-story Swedish Emmanuel Deaconess hospital, Omaha, Nebr. Plans being prepared by H. C. Peterson, 406 Finance building, Omaha.

Tonnage unstated, 4-story warehouse for A. P. Callahan & Co., 2409 South LaSalle street, Chicago. Plans being prepared by Loen E. Stamhope, 59 East Madison street, Chicago.

Tonnage unstated, theater and store building at Sheridan road and Devon avenue, Chicago, for Marks Bros. Theaters, 1641 West Roosevelt road, Chicago. Bids being taken by Levy & Klein, 111 West Washington street, Chicago.

Tonnage unstated, 7-story hotel at 5538 Hyde Park boulevard, Chicago. Plans by N. Max Dunning, 310 South Wabash avenue.

Tonnage unstated, 20-story Textile Exchange building at Lake Shore Drive and Erie street, Chicago, by Sol Shoninger, 4216 Calumet avenue, Chicago. Previously mentioned, with Joseph G. Ludgin, 53 West Jackson boulevard, Chicago, now selected as architect.

Pipe Mills

Comfortably Booked—Few Line Pipe Projects Up—Cast More Active

PIPE PRICES, PAGE 127 AND 184

Pittsburgh, Jan. 6.—A comfortable ordering rate is being maintained by jobbers of standard full weight merchant pipe. So far the mills are undergoing no hardship in making desired deliveries although in some sizes these are several weeks deferred. A gas company in Erie, Pa., has an inquiry out for its requirements of 2 to 12-inch gas line pipe for the remainder of the year after March 1 amounting to approximately 3000 tons. No new inquiries have been received from the Wortham, Tex., oil field although it is expected that some additional pipe will be bought for that territory. One recent shipment of oil

line pipe and other tubular goods to that point involved about 48 carloads.

Market Firm Despite Lull

New York, Jan. 6.—Although seasonal influences continue at work, a fair amount of demand is noted in the local cast iron pipe market. Shops are booked well ahead, and with prices on raw materials tending upward, the market is firm at last week's levels.

Large Awards in Offing

Chicago, Jan. 6.—National Cast Iron Pipe Co. is low bidder on 2600 tons of cast iron pipe for St. Paul. James B. Clow & Sons are low on half of the 5200 tons on which Detroit opened bids Dec. 29, while the Lynchburg Pipe Foundry Co. is low on another 600 tons. About 2000 tons of pipe is pending in the smaller suburbs of Chicago. While some makers claim $42 as a minimum, some recent bidding indicates that the general range is $40 to $41, Birmingham, or $48.20, $49.20 Chicago, for 6-inch pipe and over. City of Milwaukee closes bids Jan. 9 on 200 fire hydrants and Jan. 14 on about 700 gate and tapping valves.

Lettings Have Been Numerous

Birmingham, Ala., Jan. 5.—Lettings for cast iron pipe, gas and water pipe have been numerous considering the season, and the pipe shops of this section have been producing practically to capacity. Shipments of pipe from this district are steady. Quotations are on a $40 per ton base, 6-inch and over pipe. The Northwest and the Detroit district recently placed some business in this section. The Far West has been taking considerable pipe from this territory.

CAST IRON PIPE PLACED

3687 tons, 8-inch class 'C' and 4 to 8-inch Dela vaud pipe for Los Angeles, Spec. 734-C, to United States Cast Iron Pipe & Foundry Co.
3300 tons, 4 to 6-inch class 'B' pipe for Los Angeles, to American Cast Iron Pipe Co.
1366 tons, 4 to 6-inch class 'C' pipe for Los Angeles, Spec. 734-C, to American Cast Iron Pipe Co.
649 tons, El Centro, Calif., 4 to 6-inch pipe, to American Cast Iron Pipe Co.
407 tons, 6 to 12-inch pipe for Vancouver, B. C., to J. W. Pike Co.
258 tons, 6 to 10-inch pipe for Monrovia, Calif., to United States Cast Iron Pipe & Foundry Co.
200 tons, 2-inch pipe for Los Angeles to McWane Cast Iron Pipe Co.
165 tons, 4 to 6-inch class 'B' pipe for Los Angeles, Spec. 734-C, to McWane Cast Iron Pipe Co.
122 tons, 4 to 10-inch class 'B' pipe for Pulallup, Wash., to unknown interest.
110 tons, 4 to 6-inch pipe for Santa Ana, Calif., to United States Cast Iron Pipe & Foundry Co.
110 tons, 2 and 5-inch pipe for Los Angeles, to McWane Cast Iron Pipe Co.

CAST IRON PIPE PENDING

5200 tons, Detroit; James B. Clow & Sons low bidder on 600 tons of 12-inch and 1000 tons each of 6 and 8-inch; Lynchburg Pipe Foundry Co. low bidder on 600 tons each of 6 and 8-inch; United States Cast Iron Pipe & Foundry Co. and American Cast Iron Pipe & Foundry Co. bid on entire lot.
2600 tons, St. Paul, National Cast Iron Pipe Co. low bidder.
2519 tons, 24-inch class 'B' and 'C' Los Angeles, Spec. 740-A, American Cast Iron Pipe Co. low bidder on domestic and Pacific Pipe & Supply Co. low on French pipe.
854 tons, 6 to 10-inch class 'B' pipe for Spokane, Wash.; bids in.
350 tons, Faulkton, S. D.; bids in Jan. 19.
245 tons, 4 to 8-inch class B pipe for Burlingame, Calif. Informal bids being received.
206 tons, Everett Pulp & Paper Co., Lowell, Wash.; pending.
200 tons, Menasha, Wis.; bids taken Jan. 6.
109 tons, 4 and 6-inch class 'B' pipe for Paso Robles, Calif.; bids in.

Sheet Bookings Are Heavy

Valley Mills Schedule Rollings Month in Advance—Shipments from Pittsburgh District Increasing—Prices Firm

SHEET PRICES, PAGE 127

Pittsburgh, Jan. 6.—Execution of orders is the chief concern of sheet producers. Shipments are commencing to increase now that the taking of inventories has cleared the way for new stocks. Makers have more or less heavily filled order books although these by no means are clogged. It is true, however, in the cases of galvanized and blue annealed sheets that some producers cannot take any more orders for first quarter delivery and books are not yet opened for second quarter. Some makers of black sheets still lack business and fairly prompt shipping services can be obtained on this grade. One or two makers are willing to offer concessions below the 3.60c price but this latter figure is now the common market quotation. The blue annealed sheet price is firm at 2.70c and talk persists that this level shortly will be advanced. Galvanized sheets are unchanged at 4.75c and that same quotation applies on full finished automobile sheets. Some attractive business in the latter grade is in course of preparation and probably will be released later on in the month following the automobile show in New York. Operations are averaging between 85 and 90 per cent of capacity, having recovered from the loss suffered by holiday shutdowns, which were less extensive than usual.

Highest Output in Six Months

Buffalo, Jan. 6.—Sheet demand has assumed broader proportions with output of Buffalo mills now exceeding 85 per cent of plant capacity. This is the highest rate of production in more than six months. Orders represent nearly all classes of consumers. Prices center around 3.60c, mill, for black, and 4.75c, mill, for galvanized.

Producers Are Well Booked

Youngstown, O., Jan. 6.—Most sheetmakers in the Mahoning valley now are in a position to choose the specifications which they desire. Business entered last month was sufficient to permit order clerks at the majority of sheet mills here to make up rolling schedules a month in advance, an opportunity that has been lacking for many months. As a result of better bookings prices have attained a better footing and it is becoming difficult to get new business entered below 2.70c for blue annealed, 3.60c for black and 4.75c for galvanized. Certain mills have low price tonnage yet to be rolled and with prices getting on a higher basis they are hopeful that sales prices for first quarter will permit them to show a profit. Rolling schedules in a number of cases are not so tight that additional tonnage cannot be entertained but when new business is taken it will be entered at present levels or higher. Manufacturers of automobiles still are tardy in lining up their high-grade sheet requirements for first quarte- but it is expected more interest in this connection will be taken following the display of this year's models at the New York show. The market on this grade is quoted at 4.75c and while some business has been entered on this basis, practically all tonnage now coming off the mills was taken when the market stood at 4.60c and lower. Sheet mill operation in the district this week is 84 per cent of capacity.

Black, Galvanized Catching Up

Chicago, Jan. 6.—While blue annealed sheets continue to hold the spotlights, sales of black and galvanized are improving. A $2 rise, at least in blue annealed, continues to be talked of. First quarter capacity for blue annealed is practically booked up. Western delivered prices generally figure back to 2.80c, base Gary and Indiana Harbor, for blue annealed, 3.70c for black and 4.85c for galvanized.

Current Specifications Backward

Philadelphia, Jan. 6.—Heavy sheet specifications on fourth quarter contracts marked the passing of 1924. As a result current specifications are lagging, but improvement is expected around the middle of January. Blue annealed is the firmest at 2.70c to 2.80c Pittsburgh. Black is 3.50c to 3.60c. Galvanized in less than carloads is bringing 4.75c, Pittsburgh. It is not known what could be done on larger lots.

Wire Holds Place

Small Movement at Moment but Large Demand Is Close

WIRE PRICES, PAGE 127

Chicago, Jan. 6.—The holiday lull in wire and wire products has not yet ended but makers have every reason to believe a decided betterment is due. All indications point to heavy buying by jobbers in anticipation of spring demands from the country. Railroad car building interests have been better buyers. Western delivered prices of plain wire figure back to 2.70c, base Joliet and Waukegan, and on wire nails to 2.95c.

Carried Along On Momentum

Pittsburgh, Jan. 6.—The wire products market is being carried along mostly on momentum. Specifications against 60-day contracts booked late in November with practically all jobbers at the old prices are liberal, involving mixed carloads. Replacements of this character will not be made until early in February and because no lower prices are in sight it is assumed specifications on these will continue heavy until the end of this month. Specifications on manufacturing wire contracts were sufficient in last quarter to take out all commitments and bookings of first quarter contracts of this nature were heavy. Present prices are firm, 2.60c for plain wire and 2.85c for wire nails, and operations continue to average around 80 per cent.

Shape Demand Continues

Multitude of Awards Start 1925 Off at High Pace of Last Year—Prices Strengthen as Mills Become Better Booked

STRUCTURAL SHAPE PRICES, PAGE 127

New York, Jan. 6.—Heavy buying in the closing days of last year has left the local structural market relatively inactive. Business that normally might still be pending, was closed with a rush in expectation of higher prices after Jan. 1. Some tonnage was placed without plans being completed. Featuring new inquiry is 7000 tons for a municipal bridge over Flushing bay. The Inspiration Consolidated Copper Co., purchasing offices with the Anaconda Copper Co., is building a new leaching plant at Inspiration, Ariz., requiring 4200 tons. Shapes now appear firm at a minimum equivalent to 2.00c, Pittsburgh.

1925 Work Looms Large

Boston, Jan. 6.—The year has started with a boom in the structural market and awards of the past week at Boston run close to 6000 tons. One of the leading fabricators reports having entered new work on its books which will keep its plant busy for three months. Prices are firm at 2.415c delivered corresponding to 2.05c Pittsburgh.

Demand Since Holidays Dull

Philadelphia, Jan. 6.—Structural shape demand since the holidays has been small. Eastern operations range from 65 to 85 per cent. The price range is nominal at 2.00c to 2.10c Pittsburgh. Buyers generally took substantially all of the fourth quarter tonnage and so are well stocked for the present.

Fabricating Industry Outlook Bright

Pittsburgh, Jan. 6.—Numerous small structural jobs are being booked and fabricating shops are encouraged. Inquiry is increasingly good and much work is being lined up for early spring release. The Baltimore & Ohio railroad, has decided on a bridge building program for 1925 involving erection of 25 bridges in the greater Pittsburgh district. The open market figure on plain material is 2.10c, the 2.00c figure appearing only in connection with some standing contracts.

Inquiries And Awards Few

Cleveland, Jan. 6.—Structural shape inquiries are few and awards are fewer. Plenty of prospective projects are being rumored but most of these are in the financing stage and few are on the architect's boards or in the hands of fabricators. Plain material prices are firm at 2.19c Cleveland or 2.10c Pittsburgh. Fabricated and erected prices are stronger but few definite advances have been made in quotations. Immediate award is expected on the 3000 to 7000 tons for a hotel and office building in Detroit for which Lundoff-Bicknell Co. is general contractor.

Pending Work Growing

Chicago, Jan. 6.—Structural steel awards in the Chicago district continue seasonably low but new work for spring procedure is coming out at an excellent pace. The proposed addition to the Chicago Union station, requiring 5000 tons, is more definite, as is the proposed 15,000-ton American Agricultural Foundation building in Chicago. For both of these projects plans are being drawn by Graham, Anderson, Probst & White, 80 East Jackson boulevard. This month is expected to see definite action on the perennial 17,000-ton Stevens hotel, Chicago, for which Holabird & Roche, 104 South Michigan avenue, Chicago, are architects. The plain material price for the Chicago district continues 2.20c, Chicago.

Spring Program Heavy

Cincinnati, Jan. 6.—Construction work for the spring of 1925 in this district bids fair to require an unusually heavy tonnage of structural shapes. New projects are developing each week and some round tonnages are already up for figures. Contracts for the past week include 1350 tons for bridgework purchased by the Louisville & Nashville railroad. The price on plain material continues at 2.10c, base Pittsburgh.

STRUCTURAL CONTRACTS PLACED

Building awards this week ..... 57,183 tons
Building awards last week ..... 54,795 tons
Building awards two weeks ago.. 8,638 tons

3300 tons, Dumbarton bridge, San Francisco Bay, to Moore Drydock Co.

3200 tons, addition to Starks building, Louisville, Ky., to the McClintic-Marshall Co. Graham, Anderson, Probst & White, 80 East Jackson boulevard, Chicago, architects.

3000 tons, Spreckles building, San Diego, to Virginia Bridge & Iron Co.

3000 tons, office building, Broad and Locust streets, Philadelphia, awarded by the Lynch Construction Co., New York, to Bethlehem Fabricators' Inc.

2500 tons, loft at Thirty-fifth street and Seventh avenue, New York, to unnamed fabricator.

2000 tons, office building for Fred T. Ley at John and Gold streets, New York, to the McClintic-Marshall Co.

1500 tons, Seventh and Main street building, Los Angeles, to Baker Iron Works.

1500 tons, Louisville & Nashville railroad bridgework, to unnamed fabricator.

1500 tons, bascule bridge at Dix street, Detroit, to Wisconsin Bridge & Iron Co.

1400 tons, loft building for Fred T. Ley, Forty-seventh and Madison avenue, New York, to Levering & Garrigues Co.

1400 tons, loft at 491 Seventh avenue, New York, to Paterson Bridge Co.

1350 tons, Louisville & Nashville railroad, bridgework, 1100 tons to McClintic-Marshall Co., 150 tons to Mt. Vernon Bridge Co.; and 100 tons to the Virginia Bridge & Iron Co.

1325 tons, Smithfield Street & Sixth Avenue Land Co. building, Pittsburgh, to the American Bridge Co.

1300 tons, Baltimore & Ohio bridges, of which 1000 went to American Bridge, 150 tons to the Bethlehem Steel Corp., and 150 tons to the Fort Pitt Bridge Works; an additional bridge, involving about 200 tons, included in the original inquiry, has been indefinitely postponed.

1300 tons, fuel preparation building for Glen Alden Coal Co., Nanticoke, Pa., to the Fort Pitt Bridge Works.

1220 tons, Sacramento Elks club, Sacramento, Calif., to Palm Iron Works.

1200 tons, Oakland Elks club, Oakland, Calif., to Judson Mfg. Co.

1200 tons, G. E. Gilbert loft building, Seventh avenue and Thirty-sixth street, New York, to Paterson Bridge Co.

1200 tons, Academy of Medicine, Fifth avenue and 105th street, New York, awarded by Mark Eidletz, general contractor, to an unnamed fabricator.

1100 tons, G. & E. Blum loft, 231 West Twenty-ninth street, New York, to the Harris-Structural Steel Co.

1000 tons, bridges for Western Pacific railroad at Elko and Shafter, Nev., to Virginia Bridge & Iron Co.

1000 tons, Euclid Avenue Baptist temple, Cleveland, to McMyler-Interstate Co.

900 tons, apartment on East Ninety-seventh street, New York, to Paterson Bridge Co.

900 tons, Sydenham hospital, New York, through G. Richard Davis, to Taylor-Fichter Steel Construction Co.

850 tons, school No. 34, Philadelphia, to New York Shipbuilding Corp.

800 tons, Starcor Realty Co., Long Island City, New York, to Levering & Garrigues Co.

800 tons, apartment at Sacramento and Mason street, San Francisco, Edw. E. Young, 2002 California street, architect, to Central Iron Works.

700 tons, building for the Scranton Dry Goods Co., Scranton, Pa., to the McClintic-Marshall Co.

700 tons, Twelfth avenue bridge, Seattle, Wash., to Wallace Equipment Co.

700 tons, building for the Imperial Sugar Co., Sugarland, Tex., through Dwight P. Robinson, Inc., New York, to a southern fabricator.

650 tons, *Scranton Times* building, Scranton, Pa., to the McClintic-Marshall Co.

650 tons, Continental Gin Co., Birmingham, Ala., machine shop, through H. K. Ferguson Co., Cleveland, engineer, to International Steel & Iron Co.

650 tons, municipal pier, San Diego, Calif., to Moore Drydock Co.

600 tons, Toberman theater, Hollywood, Los Angeles, to Baker Iron Works.

600 tons, plain material for a gas holder, Public Service Production Co., Harrison, N. J., to Stacey Mfg. Co.

527 tons, bridge over Kaskaskia river, Randolph county, Ill., to unstated fabricator.

500 tons, apartment at Ninety-fourth street and West End avenue, New York, to Easton Structural Steel Co.

500 tons, Hotel Morgantown, Morgantown, W. Va., to the Guibert Steel Co.

400 tons, loft, West Twenty-seventh street for Lewis Wintner, New York, to the Patterson Bridge Co.

400 tons, Prospect Exchange, Southern California Telephone Co., Vermont avenue, Los Angeles, to Llewellyn Iron Works.

400 tons, 12-story apartment, Jackson and Steiner streets, San Francisco, to Judson Mfg. Co.

400 tons, George Bagge apartment, 121 West Seventy-fourth street, New York, to Taylor-Fichter Steel Construction Co.

400 tons, Elliot apartments, Commonwealth avenue, Boston, to New England Structural Co.

400 tons, miscellaneous work in Pittsburgh and vicinity, to the Guibert Steel Co., including the Elks building, Northside, 125 tons.

375 tons, Homeopathic hospital, Pittsburgh, to the Jones & Laughlin Steel Corp.

375 tons, apartment at Eddy and Jones streets, San Francisco, to Judson Mfg. Co.

350 tons, work for the Prudential building, Newark, N. J., awarded by the Lehigh Structural Steel Co., to the American Bridge Co.

350 tons, Martz building, Seventh street between Flower and Hope streets, Los Angeles, John B. & Donald Parkinson, Title Ins. building, architects, to Llewellyn Iron Works.

350 tons, Garfield Exchange, Southern California Telephone Co., Highland Park, Los Angeles, to Llewellyn Iron Works.

310 tons, grandstand for Thistle-Down Jockey club, Cleveland, to National Iron & Wire Co.

300 tons, garage for Hudson County Brick Co., Jersey City, N. J., to Taylor-Fichter Steel Construction Co.

300 tons, bridge for the Atlantic Coast Line, to an unnamed fabricator.

300 tons, boiler house for Public Service Corp., Harrison, N. J., to the Phoenix Bridge Co.

278 tons, foundry extension for Weil-McLain Co., Michigan City, Ind., to the American Bridge Co.

250 tons, garage at Bradford, Pa., to the Jones & Laughlin Steel Corp.

250 tons, building for the Page Steel & Wire Co., Monessen, Pa., to the McClintic-Marshall Co.

250 tons, Knights of Columbus building, San Jose, Calif., to Pacific Rolling Mill Co. Leo J. Devlin, architect, Pacific building, San Francisco.

225 tons, addition to Hotel Kenmore, Boston, to New England Structural Co.

225 tons, Lake Cushman, Tacoma, power substation to Star Iron Works, Tacoma; Dougan & Chrisman, Hinckley building, Seattle, general contractors.
203 tons, building for Fridley filtration plant, Minneapolis, to the Crown Iron Works.
200 tons, ten buildings for General Petroleum Corp. at Parr Terminal, Oakland, Calif., to Judson Mfg. Co.
200 tons, four bridges, Grants Pass-Crescent City National Forest road, Siskiyou National Forest, Portland, Oreg., to Virginia Bridge & Iron Co.
200 tons filter press building, in Louisiana for the Standard Oil Co., to a southern fabricator.
200 tons, addition for the Vermont Marble Co. plant, Proctor, Vt., to G. Haarmann & Co., Inc.
200 tons, White Swan hotel, Uniontown, Pa., to the Jones & Laughlin Steel Corp.
200 tons, Mack Truck Warehouse, Los Angeles, to Union Iron Works.
200 tons, Fairyland theater, Long Beach, Calif., to Union Iron Works.
175 tons, three bridges for overhead crossings for San Diego Electric railway San Diego, Calif., to Llewellyn Iron Works.
150 tons, Bards Alexandria theater, Pasadena, Calif., to Union Iron Works.
150 tons, West Coast theater, Highland Park Los Angeles, to Union Iron Works.
150 tons, buildings for the American Nut & Bolt Fastener Co., Pittsburgh, and the Kenney Garage Co., to the W. N. Kratzer Co.
125 tons, department store building at Greensburg, Pa., to the Jones & Laughlin Steel Corp.
120 tons, Duprey office building, Worcester, Mass., to Eastern Bridge & Structural Co.
100 tons, bridge for Oregon State highway commission, Josephine county, Oreg., to Virginia Bridge & Iron Co.
100 tons, bridge for Orange county, Calif., to Minnesota Steel & Machinery Co.
100 tons, First Baptist church, Pasadena, Calif., to Minnesota Steel & Machinery Co.
100 tons, station "B" Pacific Gas & Electric Co., Oakland, Calif., to Western Iron Works.
100 tons, garage, Cambridge, Mass., to New England Structural Co.
100 tons, shop building at Washington, Pa., to the Pittsburgh-Des Moines Steel Co.
100 tons, shop building at Pitcairn, Pa., for the Pennsylvania railroad, to the Pittsburgh-Des Moines Steel Co.
100 tons, shop building, American Spiral Pipe Works, Lawrenceville, Pittsburgh, to the J. E. Moss Iron Works.
Tonnage unstated, theater at Akron, O., to Burger Iron Works.

STRUCTURAL CONTRACTS PENDING

7000 tons, Roosevelt avenue bridge over Flushing Bay, Long Island, N. Y.; bids being asked by the city of New York.
5000 tons, building for southern California Athletic club, Los Angeles; bids being taken.
5000 tons, addition to Chicago Union Station; plans by Graham, Anderson, Probst & White, 80 East Jackson boulevard, Chicago.
5000 tons, Southern California Athletic club, Los Angeles; bids in.
3500 tons, 25 bridges in the greater Pittsburgh district for the Baltimore & Ohio railroad, representing program for 1925; bids to be taken.
3000 tons, Tex Rickard building, New York; general contract awarded to James T. Stewart Co., 30 Church street.
3000 to 7000 tons, hotel and office building in Detroit; Lundoff-Bicknell Co., Cleveland, general contractor; to be awarded shortly.
3000 tons, Central National Bank building, Oakland, Calif.; bids postponed until Jan. 15.
2300 tons, bridge for Washington state highway commission; bids being taken.
2000 tons, apartment hotel at Louisville, Ky.; bids being taken.
1600 tons, first unit of leaching plant for Inspiration Consolidated Copper Mining Co., Inspiration, Ariz.; 4200 tons required for completed project.
1100 tons, apartment building 390 Beacon street, Boston; bids in.
1000 tons, plates, three barges 5 x 26 x 80 feet for the United States engineers, Pittsburgh; bids to be asked shortly.
750 tons, 8-story bank building, Warren Saving Bank & Trust Co., Warren, O.; bids being taken, construction to start in March.
600 tons, American Falls dam, American Falls, Idaho; bids in Jan. 22.
600 tons, Stone Baking Co., Atlanta, Ga.; bids asked.
550 tons, Knights of Columbus building, Columbus, O.; bids in.
450 tons, Abramson loft building, 41 Maiden Lane, New York; pending.
450 tons, car repair plant for Pacific Fruit Express Co., Nampa, Idaho; bids in.
400 tons, two bridges for the Bangor & Aroostook; bids asked.
400 tons, bridge for the Pennsylvania railroad for the middlewest; bids asked.
400 tons, Maryland apartment building, Boston; bids in.
400 tons, Hylebos Creek bridge, Tacoma, Wash.; bids in.
380 tons, Bridge in Pierce county, Wash.; bids Feb. 2.
360 tons, 15-story hotel, Sturat street, Boston; bids being taken.
350 tons, Schwartze & Gross apartment, East Seventy-fifth street, New York; pending.
300 tons, building for Corn Products Refining Co., Pekin, Ill.; pending.
225 tons, Elkins Park high school, Philadelphia, J. Y. Loux, general contractor.
200 tons, Assembly hall for Hotel Chelsea, Atlantic City, N. J.; pending.
200 tons, United Bank & Trust Co., Sacramento, Calif.; bids being received.
200 tons, Pennsylvania railroad bridge, Greensburg, Pa.; bids asked.
180 tons, Stuck river bridge, King county, Wash.; bids in Dec. 22.
150 tons, bakery, Second avenue and Ninth street, Brooklyn, N. Y.; pending.
150 tons, Elks building, Santa Barbara, Calif.; bids being received.
105 tons, theater, Berkeley, Calif.; Herrick Iron Works low bidder.
100 tons, homeopathic hospital addition, Reading, Pa.; pending.
Tonnage unstated, St. Luke's hospital, Cleveland; bids soon to be asked.
Tonnage unstated, hotel at Easton, Pa.; Bauman Iron Works, Reading, Pa., low bidder.

Week's Car Awards 9000

Baltimore & Ohio With 5000, Burlington 2000 and Northern Pacific 1000 Feature Placements—Rail Orders Dribble In

RAILROAD TRACK MATERIAL PRICES, PAGE 127

New York, Jan. 6.—Substantial car buying at the close of the year brought domestic awards for 1924 up to well above 140,000 cars, as compared with approximately 103,500 cars for the preceding year. Awards for the last month amounted to 18,475 as against 12,720 cars in November, and constitute the third best monthly bookings of the year. Following are further comparisons:

Total for 12 months	144,425
December	18,475
November	12,720
October	4,885
September	27,630
August	5,980
July	886
June	438
May	511
April	10,250
March	13,150
February	41,350
January, 1924	8,150
1923 total	103,487

Car Inquiries Heavy

Chicago, Jan. 6.—With the placing of the 5000 cars which the Baltimore & Ohio was seeking and the cleaning up of the Missouri Pacific, Burlington and Northern Pacific inquiries, the western car market is left only with inquiries by the Monon for 500 box cars and the Ford Motor Co. for 565 cars of various types. A number of western roads have not yet come into the market but local car builders believe the next wave of buying will emanate from the eastern carriers. The Norfolk & Western is understood to be issuing an inquiry for several thousand cars. A large part of the Baltimore & Ohio order is expected to be built in the Chicago district and may take between 30,000 and 35,000 tons of finished material.

The Grand Trunk railroad has placed 13,000 tons of rails with Steel corporation subsidiaries. The Kansas City Southern has placed 12,000 tons of rails with the Illinois, Bethlehem and Inland companies. Track fastenings in proportion have accompanied both rail orders. The Cotton Belt is about to place 11,000 tons of rails and the Rock Island 40,000 tons. The Burlington has not yet put out a definite inquiry but it is expected about to equal its 45,000-ton order of last year. One maker of track fastenings has booked 30,000 kegs of spikes and bolts, 10,000 tons of tie plates and 5000 tons of angle bars in the past week. Track fastenings are expected to advance $2 a ton shortly.

Demand Far From Normal

Pittsburgh, Jan. 6.—Demand for light rails is better than a few weeks ago with the coming of slight improvement in coal mine operations. Sellers report order receipts at less than 40 per cent of normal. Individual orders are small and some are being lost by producers of billet-rolled rails because rail-steel light rails are available at $2 to $3 per ton under the figure quoted on the billet-rolled product, namely 1.80c.

Most of the activity in the track accessory market consists of shipments against spike and tie plate contracts.

The United States Steel Products Co. has booked 7000 tons of rails for the South African railways.

CAR ORDERS PLACED

Baltimore & Ohio, 5000 cars, 2500 gondolas to the Standard Steel Car Co., 2000 box cars to the Pullman Car & Mfg. Corp. and 500 gondolas to the General-American Car Co.
Chicago, Burlington & Quincy, 2000 cars, 1500 40-ton and 500 50-ton automobile cars, to the Pullman Car & Mfg. Corp.
Missouri-Pacific, 1040 gondolas, 375 to Pullman Car & Mfg. Corp., 375 to Pressed Steel Car Co., 250 to Standard Steel Car Co., and 40 cabooses to American Car & Foundry Co.
Northern Pacific, 1000 box cars 500 each, to the Pullman Car & Mfg. Corp. and the Pacific Car & Foundry Co.

CAR ORDERS PENDING

Baltimore & Ohio, 200 steel underframes; bids asked.
Chicago, Indianapolis & Louisville, 500 box cars; pending.
New York Central, 1000 gondolas; pending.
Northern Pacific, 500 box car underframes, 14 refrigerator underframes and 10 caboose car underframes; bids asked.
Phillips Petroleum Co., 75 tank cars; pending.

Steelmakers Resent Banking Aid For Germans

New York, Jan. 6.—American steelmakers do not view with friendly eyes the activities of New York banking houses in helping to finance German steel companies. German steel bars and small shapes are selling along this coast at substantially $8 a ton lower than the delivered prices on domestic steel. This competition of course, does not help the American steelmakers, who need even higher prices than those now prevailing to get much excepting pleasure from their operations. It is learned that some of this German steel has been shipped over here in United States shipping board vessels at $3.80 per ton. The duty is on the average close to $4 a ton. These figures must be construed in the light of the fact that it costs $6.80 a ton to ship steel from Pittsburgh to New York.

By-Products Steady

Increased Output Offset With Larger Demand Price Tendency Upward

New York, Jan. 6.—Steadiness characterizes the coal by-products market. Increased production is offset by increased demand, and the tendency at the moment is upward. Pure benzol may be quoted at 25 cents, works in tanks and 30 cents in drums; 90 per cent, 23 cents in tanks and 28 cents in drums; toluol, 26 cents in tanks and 31 cents in drums; and solvent naphtha 25 cents in tanks and 30 cents in drums; commercial xylol, 26 cents in tanks and 31 cents in drums.

Sulphate of ammonia is unchanged at $2.65 to $2.70, works, for material for domestic account and nominally $3 in double bags at seaboard for export shipment. Trading is comprised of small scattered lots for nearby delivery and all for domestic buyers.

Future contracting in naphthalene is noted around 5½ cents works for flakes and 6½ cents for balls in carload lots. Buying is not as brisk as a fortnight ago.

Demand for phenol is featureless, spot shipments going at 27 cents local warehouse and futures at 25 cents, works.

Coke Oven By-Products

	Spot*
Per Gallon at Producers' Plants in Tank Lots	
Pure benzol	$0.25
Toluol	0.26
Solvent naphtha	0.25
Commercial xylol	0.26
Per Pound at Producers' Plants	
Phenol	0.27
Naphthalene flakes	0.05½ to 0.06
Naphthalene balls	0.06½ to 0.07
Per 100 Pounds at Producers' Plants	
Sulphate of ammonia	$2.65 to 2.70
Contract	
Pure benzol	Nominal
Toluol	Nominal
Solvent naphtha	Nominal
Commercial xylol	Nominal
Per Pound at Producers' Plants	
Phenol	$0.25
Naphthalene flakes	0.05½ to 0.06
Naphthalene balls	0.06½ to 0.07

*Spot distillates are subject to shading.

Scrap Strong and Quiet

(*Concluded from Page* 128)

against an expected higher market. The New York Central and Erie railroads disposed of tonnages the past week, while the Pennsylvania railroad's list is before the trade involving about 35,000 tons.

St. Louis Market Strong

St. Louis, Jan. 5.—The market for iron and steel scrap continues strong, with a number of advances. Strength is due almost entirely to activity among dealers. Several important steelmakers are in need of scrap but are putting off buying until after inventory, and the same reason is given by foundries for postponing. As has been the case for a month or more melters will buy at their own prices, but they are unwilling to meet dealers' views, and the latter will not make concessions.

At the moment little scrap is moving, except direct from railroads. All material sold by the railroads has brought top prices, and in a number of instances more than mills are paying.

Steel specialties are especially strong, and a number have moved to new high levels. Wrought grades and material suitable for blast furnaces are also in active demand. There is a scarcity of the latter and some dealers are experiencing difficulty and losses in their efforts to cover. The largest railroad list before the trade was about 7000 tons from the Chicago, Burlington & Quincy. Small lists were closed by the Frisco, the Missouri, Kansas & Texas, and one or two other Western lines.

Southern Markets Strong

Birmingham, Ala., Jan. 5.—While there has been no active selling since the first of the year, the iron and steel scrap market in the Birmingham district is strong. Considerable tonnage is due on contracts booked during December. The Gulf States Steel Co. will shortly place a fifth open-hearth furnace in operation. No. 1 cast and stove plate are also being shipped.

Coke Ovens To Be Built at Perry Furnace

Pickands, Mather & Co., Cleveland, have closed a contract with Willputte Coke Oven Corp., New York, for the construction of a battery of 37 by-product coke ovens of the Willputte type for the Perry furnace at Erie, Pa. Work has begun and the ovens will be ready for operation before the end of this year.

The Perry furnace has capacity for about 400 tons of pig iron per day. Coke has been purchased in the open market, while Pickands, Mather & Co., have a large interest in the Mather mine at Mather, Pa. By acquiring its own coke ovens the Perry furnace will be removed from dependence on the coke market for its supplies, and at the same time an important outlet will be provided for some of the coal from the company's mines. Arrangements have been made for supplying the artificial gas to the Pennsylvania Gas Co., for mixture with that company's natural gas supply, for use in the Erie district.

The ovens are of a type that are being used by a number of iron and steel companies. They will absorb about 750 tons of coal per day, some of which will come from the Mather mine and the remainder to be purchased elsewhere. The coke output will be sufficient for the Perry furnace.

Offer Chinese Manganese

New York, Jan. 6.—Chinese producers of manganese ore are preparing to resume production. At present a lot of 300 tons of 50 per cent ore is offered here for prompt shipment at 45 cents per unit, c.i.f. tidewater. It is likely that the Chinese production will be conducted on a larger scale if demand warrants. No offerings of Indian or Brazilian manganese ore are noted in the market. The nominal asking price on Caucasian manganese ore is 42 cents per unit, c.i.f. tidewater, for the washed grade.

Brick Prices Up

Refractories Makers Find Large Business Offering in All Lines

Pittsburgh, Jan. 6.—Relining, repairs and replacement of reduced inventory stocks of both fire clay and silica brick are keeping producers active with an average operating rate which practically is on a par with present steel plant operation, about 80 or 85 per cent of capacity. Orders of this character have been heavy for the past month or so and since specifications have continued, shipments have been brisk. Distribution has been excellent, every line of industry served by refractory makers being busy. Prices show considerably more strength than a month ago. Two increases of $3 and $4, respectively, one early in December and one later on in the month, took the silica brick price to $40 in Pennsylvania and to $49 in Chicago. The Birmingham, Ala., district has been slow to respond and until late last week $45 still prevailed. It is doubted now if any more silica brick are available there at less than $52. The fire clay brick advance of $3 did not come until late in December, the Pennsylvania No. 1 grade going to $43 to $46. Large brick orders are being placed for the new open hearths of the Ford Motor Co. and brick for one or two new blast furnaces in the east remain to be placed. Outside of these little new construction is pending.

Magnesite brick is still held at $65 and chrome brick at $45, although this figure may soon advance to $48 or $50, reflecting the recent increase in chrome ore. Practically all chrome brick consumers have protected themselves at least for first half and specifications are being furnished regularly.

Refractories

FIRE CLAY BRICK	
Per 1000 f.o.b. works	
Pennsylvania, No. 1	$43.00 to 46.00
Pennsylvania, No. 2	40.00 to 43.00
Ohio, No. 1	43.00 to 46.00
Ohio, No. 2	40.00 to 43.00
Illinois, No. 1	43.00 to 48.00
Illinois, No. 2	35.00 to 38.00
Kentucky, No. 1	43.00 to 46.00
Kentucky, No. 2	40.00 to 43.00
Missouri, No. 1	45.00 to 48.00
Missouri, high grade	38.00 to 43.00
Maryland, No. 1	45.00 to 46.00
Maryland, No. 2	40.00 to 42.00
SILICA BRICK	
Pennsylvania	$40.00
Chicago	49.00
Birmingham	45.00 to 52.00
MAGNESITE BRICK	
Per Net Ton Seaboard Base	
9 x 4½ x 2½	$65.00
CHROME BRICK	
(Per Net Ton)	
9 x 4½ x 2½	$45.00

Nonferrous Metal Markets

Prices of the Week

	Copper: Electro delivered	Copper: Lake delivered	Copper: Casting refinery	Spot Tin, N. Y. Straits	New York Lead	Lead: St. Louis East	St. Louis Zinc	Aluminum 98-99%	Antimony Spot	Nickel Ingot
Dec. 31	15.00	15.12½	14.37½	58.62½	10.25	10.00	7.80	27.00	17.50	29.00
Jan. 1 Holiday										
Jan. 2	15.00	15.12½	14.37½	59.62½	10.25	10.00	7.82½	27.00	18.00	31.00
Jan. 5	15.12½	15.25	14.50	60.62½	10.50	10.25	7.85	27.00	19.00	31.00
Jan. 6	15.12½	15.25	14.50	59.75	10.50	10.25	7.85	27.00	19.00	31.00

NEW YORK, Jan. 6.—The bull market in metals has continued in swing through the holidays, new high prices for the movement being recorded in all directions. Tin reached the highest level Tuesday it has touched since 1920, above 60c. Copper has sold above 15.00c, or higher than at any time since the middle of 1923. Lead has reached levels exceeded only on one occasion, in war times. Antimony has reached a new postwar record of 19c a pound, whereas a year ago it sold down to 7.00c. Nickel quotations have advanced 2 to 5 cents. Zinc has been quoted 7.85c, East St. Louis, which is a few points less than its recent high.

The stimulus toward higher price levels has come principally from abroad. European industrial needs are expanding and increasing European requirements coming coincidentally with improving American business are putting a strain on current world supplies. Stocks are dwindling in all lines and increasing demands point to the need in the near future of expanding mine output. In some lines, lead especially, even high prices have proved unable to stimulate needed output, while there is a prospect zinc soon may come to occupy a parallel position.

Copper.—Electrolytic copper is firmly held at 15.12½c delivered Connecticut, with sales at this figure. Sellers have much tonnage on books and are booking cautiously. Exporters have been bidding actively in the f.a.s. market, while direct sales by American agencies abroad have been making substantial totals. Lake copper sold up to 15.25c, delivered.

Copper wire.—On the rising copper market buyers of wire, including both public utility companies and electrical equipment makers, have shown increased interest in wire. Sales in the open market are being made as follows: Bare wire, 16.75c to 17c, mill; weatherproof, 18.75c to 19c; magnet, 18.75c to 19c. Deliveries range from four to five weeks on bare wire and six to eight weeks on insulated wire and cable.

Rolled products.—No change has been announced in the base prices for rolled products this week, present prices being established presumably on 15.37½c, delivered, electrolytic, which is somewhat above the present electrolytic price. Mills have sufficient tonnage to be assured of the present rate of operations through first quarter. The price of zinc sheets was increased ¼ cent, Dec. 30 to 11.00c, mill.

Zinc.—Prime western zinc prices have ranged between 7.85c, East St. Louis, for prompt, down to 7.80c, for futures. The scarcity of prompt shipment metal has caused the appearance of a premium on nearby metal. Brass special premium has

Prices Continue To Rise in All Metals With Buying More Active

increased to ⅛ cent. High grade zinc price advanced ¼ cent to 8.75c, delivered.

Lead.—The American Smelting & Refining Co. has advanced its price $8 a ton to 10.00c, New York, the last advance of $5 taking place Jan. 5. Independent producers have been quoting 10.50c, New York and 10.25c, East St. Louis. Demand is in excess of supplies and only the conservative policies of the two large producers have kept the rise from proceeding more rapidly. European demand continues insatiable. High prices have not materially affected consumption as yet.

Tin.—The December tin statistics showed an increase in the world visible supplies of over 4000 tons, yet on the day of the appearance of these figures tin prices soared to new high levels for four years. The increase in visible represents in part a transfer of supplies from the invisible to the visible account. Small American deliveries in December were partly responsible for the increase. American consumers have been buying tin sparingly, while the professional trade has been bullish. Far Eastern pooled stocks are about gone.

Nickel.—The International Nickel Co. announced Jan. 2 an advance in prices of 2 cents on ingot to 31.00c; shot 2 cents to 32.00c; and electrolytic 5 cents to 38.00c.

Mill Products

Base prices cents per pound, f.o.b. mill

SHEETS	
High brass	19.37½
Copper, hot rolled	22.75
Zinc, ga. 9 to 18 (plates ½c less)	11.00
Lead, full sheets (cut ¼c more)	13.25
Aluminum, bright, 0 to 35 gage	37.50 to 92.00
SEAMLESS TUBES	
High brass	24.00
Copper	25.00
RODS	
High brass, round, ⅜ to 2½-inch	17.37½
Naval brass	19.87½
WIRE	
Copper	16.75 to 17.00
High brass	19.87½

Old Metals

Dealers' buying prices cents per pound

HEAVY RED BRASS	
New York	9.50
Chicago	10.00 to 10.50
Cleveland	10.25
HEAVY YELLOW BRASS	
New York	7.50
Chicago	8.50 to 8.75
Cleveland	8.50
ZINC	
New York	4.50 to 5.00
Chicago, dross	5.00
Cleveland	4.25
HEAVY COPPER AND WIRE	
New York	12.25
Chicago	12.50
Cleveland	13.00
RED BRASS TURNINGS	
New York	8.50
Chicago	9.50 to 9.75
Cleveland	9.75
YELLOW BRASS TUBING	
Cleveland	8.75
NO. 1 BRASS ROD TURNINGS	
New York	8.25
Chicago	8.50
Cleveland	9.25
LIGHT COPPER	
New York	10.25
Chicago	11.50
Cleveland	11.25
LIGHT BRASS	
Chicago	7.50
Clippings, Chicago	10.00 to 10.50
ALUMINUM	
Borings, Cleveland	12.50
Old sheet, Cleveland	18.25
Clippings, Cleveland	22.00

Secondary Metals

Remelt aluminum No. 12	22.00 to 22.50
Brass ingot 85-5-5-5	13.00 to 13.25

Large Improvements Now Are Under Way

Pittsburgh, Jan. 6.—The Carnegie Steel Co. appropriation for the construction of a 7-unit open-hearth plant at the Mingo works at Mingo Junction, O., is $7,000,000, and work will be started immediately. Earlier reports that the company would erect a large by-product coke plant at the mill are denied and the plant will continue to get its coke from the by-product plant at Clairton.

No appropriation has been authorized for the construction of additional mills at the McDonald works in Ohio, it also was learned, and published reports that $5,000,000 would be expended at that plant are premature. The reports declared that bar mills and shape mills will be added to the McDonald plant, which would increase the capacity by 100,000 tons a year. The McDonald plant is purely a bar mill and while there has been an improvement projected there for several years, which involved the construction of additional bar mills, no appropriation has been made. There is a possibility, however, of the appropriation being authorized this month.

It is also learned that the Carnegie Steel Co. during 1924 expended $6,500,000 at its Homestead plant on the gigantic replacement program at that works, which will take five years to consummate. More than $20,000,000 will be expended at the Homestead works before the program is completed, it is declared.

Dillon, Read & Co., New York, are negotiating for the purchase of $15,000,000 bonds of the Thyssen steel works of Germany.

Iron Production Increase Sharp

Pig Iron Output for December Makes a Gain of 446,088 Tons and Reaches 2,961,067 Gross Tons—Active Furnaces Increase from 204 on Nov. 30 to 229 on Dec. 31

WITH 2,961,067 gross tons of coke and anthracite pig iron made in December, production showed a gain of 446,088 tons over the 2,514,979-ton output of November, a gain which was largest since the 529,677-ton gain of March, 1923. December was the fifth consecutive month to show gain since the low point was reached last July. Active furnaces also continued to gain, the net increase during the month being 25 furnaces. From all indications, production of iron will go well over the 3,000,000-ton mark in January.

MONTHLY PRODUCTION

	1924	1923	1922
January	3,015,480	3,228,226	1,645,804
February	3,073,619	2,993,918	1,630,180
March	3,465,389	3,523,595	2,035,908
April	3,226,107	3,546,308	2,070,161
May	2,619,986	3,868,486	2,309,348
June	2,022,836	3,667,868	2,362,455
Total 1st half	17,423,417	20,828,401	12,053,856
July	1,783,457	3,684,677	2,403,030
August	1,882,986	3,448,886	1,810,665
September	2,053,617	3,117,526	2,024,008
October	2,461,727	3,142,642	2,629,655
November	2,514,979	2,891,191	2,846,110
December	2,961,067	2,912,527	3,083,520
Total 2nd half	13,657,833	19,197,449	14,796,988
Grand total	31,081,250	40,025,850	26,850,844

Pig iron produced in 1924 totaled 31,081,250 gross tons, this being a loss of 8,944,600 tons from the high record of 40,025,850 tons made in 1923. Production during the first half of 1924 was 17,423,417 tons and during the last half, 13,657,833 tons.

Average daily production of pig iron in December was 95,518 tons, which compared with the 83,832 tons of November, was an increase of 11,686 tons. This was the largest increase in daily rate since October, 1922, when a gain of 17,361 tons was registered. Production of iron now is the highest since last April and represents an annual rate of 34,800,000 tons. Merchant iron made in December totaled 646,663 tons and showed a gain of 41,225 tons over the 605,438 tons produced in November. On an average daily basis, this represented 20,860 tons per day in December and an increase of 679 tons over the 20,181-ton daily rate of the previous month. Nonmerchant iron in December aggregated 2,314,404 tons and was a gain of 404,863 tons over the 1,909,541 tons of November. Reduced to a daily basis this was 74,658 tons per day and an increase of 11,007 tons over the 63,651-ton rate of the month before.

On the last day of the month 229 blast furnaces were in operation, this figure being an increase of 25 over the 204 furnaces active on Nov. 30. During the month 3 merchant stacks were blown in and one blown out, this being a net gain of 2 stacks. Of the nonmerchant class 26 were blow in and 3 blown out or banked, the net gain being 23 furnaces. Of the total number of furnaces operating on the last day of December, 53 were of the merchant class and 176 of the nonmerchant or steelworks class. The corresponding figures for November were 51 and 153 respectively.

Stacks blown in during the month were: In Ohio: Haselton No. 1, Republic Iron & Steel Co.; Central C, American Steel & Wire Co.; Belfont, Belfont Steel & Wire Co.; Globe, Globe Iron Co.; Cherry Valley, M. A. Hanna Co.; one Bellaire, Carnegie Steel Co.; Hubbard No. 2, Youngstown Sheet & Tube Co. In Pennsylvania: Cambria L and Coatesville C, Bethlehem Steel Co.; National No. 1, National Tube Co.; one Eliza and one Aliquippa, Jones & Laughlin Steel Corp.; Midland No. 2, Pittsburgh Crucible Steel Co.; Monessen No. 1, Pittsburgh Steel Co.; Stewart, Stewart Furnace Co.; one Swedeland, Alan Wood Steel & Iron Co.; three Edgar Thompson, one Duquesne, one Clairton, one New Castle and one Farrell, Carnegie Steel Co. In Maryland: One Maryland, Bethlehem Steel Co. In Indiana: Gary Nos. 6 and 12, Illinois Steel Co. In Illinois: South Works Old Nos. 3 and 4, South Works New No. 6, and Joliet No. 3, Illinois Steel Co.

Stacks blown out during the month were: In Ohio: One Ohio, Carnegie Steel Co. In Pennsylvania: Lebanon, E. J. Lavino & Co. In Maryland: Maryland F, Bethlehem Steel Co. In Alabama: Ensley No. 1, Tennessee Coal, Iron & Railroad Co.

AVERAGE DAILY PRODUCTION

	1924	1923	1922	1921	1920
Jan.	97,273	104,136	53,090	77,895	97,172
Feb.	105,987	106,925	58,220	68,906	102,904
Mar.	111,787	113,664	65,674	51,447	108,895
April	107,537	118,210	69,005	39,691	91,754
May	84,515	124,790	74,495	39,202	96,510
June	67,427	122,262	78,748	35,466	101,553
July	57,531	118,860	77,517	27,892	98,190
Aug.	60,741	111,254	58,408	30,802	101,468
Sept.	68,454	103,917	67,466	32,859	104,143
Oct.	79,410	101,375	84,827	39,821	106,075
Nov.	83,832	96,373	94,879	47,165	97,836
Dec.	95,518	93,952	99,468	52,992	87,105
Ave.	84,921	108,659	73,563	45,223	99,456

DIVISIONS OF PRODUCTION

1923	Merchant	Non-merchant	Spiegel	Ferromanganese	Other ferro
Jan.	713,186	2,515,040	12,056	19,358	952
Feb.	708,901	2,285,017	3,657	21,410	759
Mar.	767,219	2,756,376	13,832	20,730	236
April	795,558	2,750,750	7,440	20,810	670
May	909,726	2,958,760	9,533	19,568	892
June	899,102	2,768,766	18,184	19,717	874
July	900,496	2,784,181	12,876	26,493	776
Aug.	828,163	2,620,723	5,595	22,044	1,800
Sept.	734,754	2,382,772	4,478	23,206	1,860
Oct.	724,596	2,418,046	8,442	16,039	1,858
Nov.	726,686	2,164,505	16,783	14,839	3,259
Dec.	740,624	2,171,903	10,272	18,236	1,717
Tot'l	9,449,011	30,576,839	123,148	242,450	15,653
1924					
Jan.	707,710	2,307,770	7,948	19,735	...
Feb.	679,700	2,393,919	9,870	22,262	...
Mar.	712,321	2,753,068	13,794	22,350	...
Apr.	708,151	2,517,956	4,240	23,580	163
May	648,656	1,971,330	9,336	21,663	763
June	551,408	1,471,428	9,410	20,563	779
July	468,780	1,314,677	15,328	11,927	765
Aug.	465,059	1,417,927	8,010	7,654	760
Sept.	518,017	1,535,600	5,033	7,255	593
Oct.	607,717	1,854,010	10,047	6,545	822
Nov.	605,438	1,909,541	8,835	13,429	870
Dec.	646,663	2,314,404	5,284	21,220	904

DECEMBER PIG IRON

	No. of stacks	No. in blast last day of month Dec.	Nov.	Total tonnage made Merchant	Nonmerchant	—Totals— Dec.	Nov.
Pennsylvania	144	88	74	175,910	895,637	1,071,547	887,994
Ohio	78	49	43	115,152	606,360	721,512	612,691
Alabama	42	22	23	117,441	110,583	228,024	233,162
Virginia	19	3	3	8,800	.....	8,800	5,011
New York	27	15	15	71,970	109,240	181,210	164,080
New Jersey	4	0	0	.....	.....	.....	.....
Illinois	26	18	14	92,738	183,203	275,941	196,836
Colorado	5	2	2				
Indiana	16	14	12	14,305	311,192	325,497	285,946
Maryland	6	5	5				
Wisconsin	6	1	1				
Kentucky	7	1	1				
Tennessee	14	2	3	5,754	56,248	62,002	47,670
Utah	1	1	2				
West Virginia	5	3	1				
Georgia	2	0	0				
Michigan	4	4	0				
Minnesota	3	1	1	33,258	25,868	59,126	58,455
Missouri	1	0	4				
Texas	1	0	0				
Spiegel and ferro—all states	..	..	..	11,335	16,073	27,408	23,134
Totals	411	229	204	646,663	2,314,404	2,961,067	2,514,979

Fires Additional Ovens

Pittsburgh, Jan. 6.—Three hundred ovens were added to the active list Jan. 2 at the Continental No. 2 plant of the H. C. Frick Coke Co. This leaves Continental No. 3, Buffington, Gitmer and Shoaf as the only idle Frick plants in the region. They will start shortly, it is understood.

Coast Sees Good Year

Prices Firm and All Factors Point to Strong Movement—Construction Holds at High Mark—Warehouses Well Stocked

SEATTLE, Jan. 2.—The iron and steel trade in this section finds itself in a favorable position. While at the moment business is quiet, due to inventory and the holidays, prospects for 1925 are encouraging. The market is also firm and every indication points to a heavy volume of business.

The lumber industry is hopeful. Conditions in lumber, which is really the trade barometer in the Pacific Northwest, have improved materially within the last 60 days. Domestic demand is brisk and foreign markets are expected to follow suit.

Seattle's construction record for 1924 is estimated at $27,350,000, showing a heavy increase over 1923 with $22,509,505, the best previous record. Other cities in Washington and Oregon are showing similar gains. The outlook for brisk construction is bright, although it may not be on as large a scale as in 1924. Seattle's municipal improvements totaled $7,000,000 during the year. Both Washington and Oregon have extensive road improvements in contemplation for 1925.

The unemployment situation in Seattle is somewhat more actute than for two or three years, but this is largely due to cold weather which caused a cessation of much outdoor work. The logging and lumber industries will resume operations by the middle of January and many of the unemployed will be relieved within a short time.

Pig Iron and Coke

The market is unchanged from a week ago. Buying is at a minimum as plants are fairly well stocked and a majority have placed orders covering requirements for the next six months. Foreign iron is finding strong competition in Columbia iron from Utah which seems to be meeting with much favor.

Bars, Plates and Shapes

Prices on all these commodities are strong. While the mills at San Francisco have raised bars to 2.60c the local mill is still quoting 2.50c but an advance here is not unlikely.

Little plate tonnage is up for figures in this district but several contracts are in view for early next year. Mill prices here range from 2.40c to 2.50c, one of the large interests having raised from 2.40c to 2.45c this week while another interest is still quoting 2.40c. For quick delivery one of the large mills has been quoting 2.50c for more than a week. The situation looks strong and other advances seem probable.

Shapes are firm at 2.45c. For the Cushman power plant substation at Tacoma, Dougan & Chrisman, Seattle, were low bidders at $166,470 and received the contract today. This job involves about 225 tons of structural steel which was placed with the Star Iron Works, Tacoma. A small tonnage of reinforcing material will be required. Local fabricators are figuring on a number of small bridges, bids for which will be opened in January. Another pending contract is for a government steel dredge, fitted for burning oil, involving 80 tons of steel. Bids will be opened at Portland Jan. 15.

Finished Materials

Mill representatives report good business in December, jobbers having shown a tendency to stock up early in 1925 in anticipation of improved demand. There has been considerable turnover of pipe and warehouses are well stocked with this material as well as other items.

Local warehouse prices remain unchanged, although there is a disposition to advance in line with mill quotations. Jobbers here and in Portland have decided to maintain the present schedule until the situation is sufficiently firm to eliminate cutting.

Old Materials

The scrap market is inactive and shows no features. Steel scrap is still quoted at $8 gross for the best grades. Not much is being shipped in and receipts are about equal to demands of the main buying interests. No 1 cast iron scrap is moving slowly at an average of $18.

Alloy Corporations Make Personal Changes

N. Petinot, formerly general manager of sales for the United States Ferro Alloys Corp., which has recently been merged with the Vanadium Corp. of America, became on Jan. 1, general manager of sales of both the Vanadium and the United States corporations. Mr. Petinot has been in the steel as well as the alloy business in this country over 17 years. He originally came to the United States with Dr. P. T. Heroult and was associated with Dr. Heroult in the introduction of the electric furnace. Mr. Petinot's headquarters will be in the general offices of the allied companies at 120 Broadway, New York.

Dr. B. D. Saklatwalla has been made vice president of Vanadium Corp. of America and vice president of the United States Ferro Alloys Corp., effective Jan. 1. Dr. Saklatwalla has been general superintendent of the reduction plant of the Vanadium Corp. of America at Bridgeville since its organization in 1919, and prior to that was general superintendent of the same plant for the American Vanadium Co. He has been a director of the corporation since 1921. Dr. Saklatwalla will maintain his headquarters at Bridgeville near Pittsburgh inasmuch as this is a central point between the general offices in New York and the plant of the United States Ferro Alloys Corp. in Buffalo.

Robert Turnbull remains with the consolidated companies as general manager of United States Ferro Alloys Corp. interests in the Niagara Falls district.

Gustav Laub, who has been with the Vanadium corporation and with the American Vanadium Co. before the Vanadium corporation was formed, has been appointed assistant secretary of both the Vanadium Corp. of America and the United States Ferro Alloys Corp.

Will Confer on New Steel Scrap Classification

Revised specifications on iron and steel scrap recommended by the iron and steel committee of the National Association of Purchasing Agents have been adopted tentatively for one year by that association.

Meanwhile the specifications have been printed and circulated for consideration at a conference Jan. 12 at the bureau of standards, Washington. At this conference members of the association, of the bureau and all interested in scrap will be invited, with a view to obtaining views from as many angles as possible.

Discuss Plans for New Blast Furnace

The Hudson Valley Coke & Products Corp., which is building a large by-product coke and blast furnace at Troy, N. Y., recently entertained at a dinner at which plans were discussed. Members of four subsidiary companies, the Burden Iron Co., Oliver & Snyder Steel Co., Arthur Tutein, Inc., and the Foundation Co., entertained as their guests representatives of various gas companies and industrial concerns in and around Troy. The speakers included John W. Doty, president of the Foundation Co., Henry Oliver, president of Oliver & Snyder Steel Co., Arthur Tutein of Boston, C. R. Prince of Westfield, Mass., and C. A. Otis of Cleveland. Officials of the new company announce that the original estimated expenditure of $5,000,000 would be increased by another million and a half according to revised plans. The blast furnace will have a daily output of 450 tons, and is expected to be in operation in September.

British Furnaces Are Resuming

Fair Demand for Pig Iron Includes Some Orders from America—Lockout of Belgian Steelworkers Averted—Belgians Underselling English Steelmakers—Germany Buying Iron in France, Selling Rails to Balkans

Iron Trade Review Staff Cable

European Headquarters,
IRON TRADE REVIEW,
2-3 Caxton House, Westminster, S. W.1

LONDON, Jan. 6.—Demand for British pig iron is fair, furnaces selling some of their product on the Continent, and to America. Additional stacks have been started. Four more are to go in blast. Buying of ferromanganese has broadened.

The British steel market is rather slow, but demand for tin plate is reviving, and mills are resuming operations. Sales have been made for delivery during the first quarter on the Continent, South America, Australia and the Far East. Belgian steel bars are being sold at £7 ($33.32) delivered, against the British price of £8 15s ($41.60).

Brussels reports that Acieries Angleur have obtained an order for 10,000 tons of rails for Finland. The lockout of Belgian steelworkers who demanded wage increases, has been averted by both sides agreeing to continue on former terms until May 31, pending efforts at settlement. The Cockerill company has been awarded four 800-ton vessels.

Paris reports that Germany is buying pig iron, while Berlin states that the Germans have taken numerous railroad orders from the Balkans, and also have contracted for important harbor work at Trelleborg, Sweden.

British Railroads Promise Much Steel Buying

European Staff Special

Office of IRON TRADE REVIEW,
Prince's Chambers, Corporation St.

BIRMINGHAM, Eng., Dec. 29.—Work in the steel trade has in most cases finished for the year. Somewhat urgent inquiries have been circulating from the mills for specifications to keep capacity employed for the rest of the week. The tone is, nevertheless, hopeful and even confident. Three large contracts by home railways forecast the spending of £14,000,000 by the London, Midland & Scottish railway, £10,000,000 by the Great Western and £6,000,000 by the North Eastern. A good share of this £$30,000,000 should come to steelmakers. The only rail order hitherto mentioned is 31,000 tons on behalf of the largest company of the three. But more orders of the kind will inevitably be placed. With prices

Sterling—$4.70

steady and likely to continue so there is no inclination to buy speculatively. There is still plenty of unemployed capacity to handle any likely expansion. Steelmakers will look to continuous employment and large production for profits rather than to higher prices. Anxiety to obtain specifications has induced some makers to shade by 5s ($1.17) the recognized price of £9 5s ($43.47) for several classes of products.

Current price for semifinished steel has been weakened by the slump in the Welsh tin plate trade which has compelled mills to sell in the open market steel which normally would have gone to tin plate mills, and it has been possible to buy billets at £7 ($32.90) delivered though the general standard is understood to be £7 5s ($34.07). For high carbons and steel of special quality makers ask anything from £7 15s ($36.42) to £8 10s ($39.95). Keen continental competition compels an attitude of watchfulness, and restrains inclination to rush prices. Offers have been received in Birmingham this week of steel bars at £5 16s ($27.26) f.o.b. Antwerp, joists £5 12s 6d ($26.43) and plates £7 ($32.90). Billets can be obtained delivered here at £6 10s ($30.55). In one case a structural engineer who was tempted by the attractive price offered an order to Belgium on condition that the steel was shipped in ten days. The order was returned because of inability to make delivery under nine or ten weeks.

For the present pig iron prices are

European Steel Delivered to World Ports

Gross Tons—Prices Last Reported

	U. S. A. North Atlantic Ports	U. S. A. Pacific Ports and Vancouver‡	Buenos Aires, Rio de Janiero, East Coast of South America	Valparaiso, West Coast of South America	Calcutta, Bombay and Indian Ports	Singapore and Straits Ports	South African Australian, & New Zealand Ports	Hongkong & South China	Shanghai and North China	Japanese Ports
*Foundry No. 3 Pig Iron Si. 2.50-3.00	$22.75	$23.50	$24.00	$26.30	$24.65	$27.50	$28.15	$28.15	$28.80	$28.15
*Hematite Pig Iron, Phos. 0.002-0.05	24.50	25.15	25.55	27.95	25.85	29.45	29.80	29.80	30.50	29.80
Standard rails	34.10	35.25	35.25	36.45	33.50	38.25	38.75	38.75	39.40	38.75
Merchant bars	1.47c	1.55c	1.52c	1.58c	1.44c	1.65c	1.68c	1.68c	1.71c	1.68c
Structural shapes	1.42c	1.50c	1.47c	1.52c	1.39c	1.60c	1.63c	1.63c	1.66c	1.63c
Plates, ship, bridge and tank	1.78c	1.86c	1.84c	1.89c	1.66c	1.97c	2.00c	2.00c	2.03c	2.00c
†Sheets, black, 24 gage	2.84c	2.97c	3.05c	3.00c	2.86c	3.02c	3.05c	3.05c	3.07c	3.05c
†Sheets, galvanized, 24 gage corr.	3.87c	4.00c	4.10c	4.04c	3.90c	4.06c	4.09c	4.09c	4.12c	4.09c
Plain wire, base	2.32c	2.38c	2.36c	2.42c	2.26c	2.47c	2.52c	2.52c	2.55c	2.52c
Galvanized wire, base	2.77c	2.84c	2.81c	2.87c	2.75c	2.95c	2.98c	2.98c	3.01c	2.98c
Wire nails, base	2.39c	2.42c	2.44c	2.47c	2.39c	2.57c	2.60c	2.60c	2.62c	2.60c
†Tin, plate, base box	$5.78	$5.91	$6.00	$5.95	$5.82	$5.97	$6.01	$6.01	$6.03	$6.01

The foregoing prices are for delivery by cargo liners in ordinary quantities 100 to 1000 tons, c.i.f. to port of destination, but *without* customs duties, unloading charges, dock dues, commissions, etc., at destination. Owing to lack of uniformity in ocean freight rates, cargo shipments by tramp steamers may show considerable variation from these quotations. Pig iron and rails quoted dollars per ton, finished steel in cents per pound, tin plate in dollars per box. Quotations are for *Continental* iron and basic-bessemer steel, except as indicated; for British material add $4.50 to $6.00 per ton.

†British material, basic open-hearth. *British, Middlesbrough. ‡Steel to Vancouver, deduct 7 cents per 100 pounds.

Current Iron and Steel Prices of Europe

Prices Converted into Dollars at Rates of Exchange, January 5

	British Gross Tons U. K. Ports		*French* Metric Tons Channel Ports		*Belgian and Luxemburg* Metric Tons Channel Ports		*German* Metric Tons Rotterdam or North Sea Port	
Export Prices f. o. b. Ship at Port of Despatch—By Cable	£ s d		Francs		Francs		£ s d	
PIG IRON								
Foundry No. 3, Silicon 2.50-3.00	$19.28	4 1 0*	$18.05	335	$17.95	360	$21.42	4 10 0
Basic	19.04	4 0 0	18.31	340	17.95	360	23.80	5 0 0
Basic-bessemer	21.42	4 10 0†	17.50	325	17.20	345	21.42	4 10 0
Hematite, Phosphorus 0.02-0.05	21.06	4 8 6	22.62	420	.....	...	27.37	5 15 0
SEMIFINISHED STEEL								
Billets	$30.94	6 10 0	$24.77	460	$24.93	500	$26.18	5 10 0
Wire rods	52.36	11 0 0	31.23	580	31.90	640	32.61	6 17 0
FINISHED STEEL								
Standard rails	$40.46	8 10 0	$27.46	510	$30.41	610	$29.75	6 5 0
Merchant bars	1.81c	8 10 0	1.23c	505	1.22c	545	1.25c	5 16 0
Structural shapes	1.70c	8 0 0	1.18c	485	1.19c	525	1.22c	5 13 0
Plates, ship, bridge and tank	1.86c	8 15 0	1.71c	700	1.50c	665	1.48c	6 17 0
Sheets, black, 24 gage	2.66c	12 10 0	3.05c	1,250	2.83c	1,250	2.97c	13 15 0
Sheets, galvanized, 24 gage, corrugated	3.67c	17 5 0	4.26c	1,745	5.09c	2,250	3.78c	17 10 0
Bands and strips	2.34c	11 0 0	1.68c	690	1.75c	775	1.84c	8 10 0
Plain wire, base	2.34c	11 0 0	2.37c	970	1.92c	850	1.84c	8 10 0
Galvanized wire, base	2.98c	14 0 0	3.07c	1,260	2.49c	1,100	2.21c	10 5 0
Wire nails, base	3.08c	14 10 0	2.49c	1,020	1.92c	850	2.70c	12 10 0
Tin plate, base box 108 pounds	$ 5.59	1 3 6	.....	...	.....	...	$ 5.59	1 3 6
Domestic Prices at Works or Furnace—Last Reported								Renten Marks
Foundry No. 3 Pig Iron, Silicon 2.50—3.00	$19.28	4 1 0	$16.42	305(2)	$18.20	365	$20.24	88
Basic pig iron	19.04	4 0 0	16.69	310(1)	17.20	345	22.54	98
Furnace coke	3.99	16 9	7.65	142	7.48	150	5.52	24
Billets	30.94	6 10 0	23.16	430	25.42	510	27.14	118
Standard rails	1.86c	8 15 0	1.20c	490	1.38c	610	1.42c	136
Merchant bars	1.86c	8 15 0	1.24c	510	1.25c	555	1.30c	125
Shapes	1.81c	8 10 0	1.18c	485	1.22c	540	1.28c	123
Plates, ship, bridge and tank	1.97c	9 5 0	1.72c	705	1.53c	675	1.51c	145
Sheets, black, 24 gage	2.76c	13 0 0	3.05c	1,250	2.88c	1,275	2.66c	255
Sheets, galvanized 24 gage, corrugated	3.67c	17 5 0	4.26c	1,745	5.14c	2,275	5.01c	480
Plain wire	3.08c	14 10 0	2.37c	970	1.92c	850	1.77c	170
Bands and Strips	2.44c	11 10 0	1.68c	690	1.76c	780	1.67c	160

* Middlesbrough; †Scotch foundry iron; (1) Basic-bessemer; (2) Longwy. British export furnace coke £0 16s 9d ($3.99) f. o. b. Ferromanganese, £14 10s 0d ($69.02) f. o. b. The equivalent prices in American currency are in dollars per ton for pig iron, coke, semifinished steel and rails; finished steel is quoted in cents per pound and tin plate in dollars per box. British quotations are for basic open-hearth steel; French, Belgian, Luxemburg, and German are for basic-bessemer steel.

none too strong, No. 3 Cleveland being obtainable at £4 1s ($19.03) and east Coast hematite has been sold at £4 8s ($20.68). Fortunately coke is plentiful and shows no sign of increasing in price, £1 5s ($5.87) delivered being the recognized figure in Cleveland. It is just possible that additional furnaces will be started early in the new year, but anything like boom conditions are regarded as out of the question.

A slight improvement is reported in the tin plate trade, a few promising inquiries having come from South America and the Far East. The schedule price continues at £1 3s 6d ($5.52). Shipments have expanded a little lately.

The galvanized sheet trade is only moderately employed, and prices are slightly weaker at £17 5s ($81.07). The shrinkage in the November exports already reported fairly reflects the general falling off in business, although in this line, as others, a seasonal decline is a development invariably anticipated and therefore regraded with little concern by most interests.

German Tin Plate Industry Reviving

European Special Service

BERLIN, Dec. 30.—A considerable revival in the tin plate trade is noted in Germany. The output has almost doubled as compared with prewar times, since producers have profited by the consequences of the period of inflation and have greatly increased their capacity. Great Britain has enjoyed a large trade in tin plate on the German market but now the position tends to be reversed. Although the season for active business is over works in Germany are still busy and they have started operations for next season. There is a fair export business with India, South America, Italy, Spain, Portugal and Scandinavia. It is reported that Otto Wolff, who controls about 80 per cent of the German tin plate trade, has recently succeeded in selling 15 tons of German tin plate to Eng. interests. Export trade in Germany has somewhat slackened since the middle of November but prices have remained firm. In fact producers have booked a fair tonnage for the home market and consequently have advanced export prices. Hamburg exporters still have on their hands about 6000 to 8000 metric tons of bars which they bought at £6 to £6 5s per metric ton ($28.20 to $29.45); the present price is lower and reaches in some cases £5 16s ($27.20). Japan has recently been inquiring for rails but finally the order was placed with Belgium. The Far East is buying small parcels of wire nails at £12 10s ($58.80). Yugoslavia is buying larger quantities and is also in the market for black and galvanized pipe. Some galvanized wire has been shipped to Argentina at £10 5s ($49.50)), also plain wire at from £8 5s to £8 10s ($38.80 to $40). Corrugated galvanized sheets No. 19 gage have been sold at £22 ($10.35). Corrugated sheets have also been shipped to Turkey and some small parcels to India. Turkey has bought about 100 tons of barbed wire at £14 15s ($69.50) to be used for armament purposes.

Business in the domestic market has slackened owing to the holidays and inventory season. However, prices have advanced and mills have well filled order books and are unwilling to accept new orders as they anticipate further advances. The average time of delivery for merchant bars is about six weeks. The Stahlwerk Becker which shut down at the beginning of the year owing to financial difficulties has resumed production at a reduced rate with about 900 workmen.

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More Data on Distribution Needed

A GREAT opportunity awaits the Chamber of Commerce of the United States in developing facts and figures for a more intelligent distribution of commodities. In the past the subject has not received the attention it deserved, at least not in a strongly co-operative attitude on the part of such a representative organization of business men. Everything has been done toward economies in production and pronounced progress has been made in that direction; while distribution has not been regarded as of equal importance, or as a subject to be studied carefully as that of manufacturing.

The president of the chamber, Richard F. Grant, has called a meeting of 150 business men, manufacturers, wholesalers and retailers, and representatives of the consuming public, to consider ways and means for a survey to be undertaken under the auspices of the national organization. Practically all basic lines of manufacture in the United States are to be represented in Washington, Jan. 14 and 15. As a preliminary it has been indicated that the features of the problem to receive attention are the collection of business statistics as a means for economies in distribution; regulation and improvement of trade relations; methods and general conditions affecting distribution, and how advertising figures in merchandising.

Any one of the foregoing topics present much material for research by the committees it is proposed to create to make the survey. Considerable information of a constructive character is likely to be brought to the surface, and it is worthy of all the attention the chamber can bestow upon it.

Pound Sterling Climbs Near Par

IN THE grist of news poured into the hopper of the new year, one of the most significant items is that of the advance of British pound sterling exchange rates. Just one year ago the pound was quoted at $4.20 or 13 per cent below its par value of $4.86. Early this week it stood at $4.76, or less than 3 per cent below gold basis. There are a great many reasons for believing that one of the early achievements of 1925 will be the return of Great Britain to the gold standard.

Because of the great financial strain during the World war the bottom threatened to fall out of sterling exchange. The British government came to the rescue and maintained a support for the pound at a rate of $4.75¼. On March 20, 1919, that support was withdrawn and the result was the most precipitate recession of sterling exchange in decades. It declined to 30 per cent below par in 1920 and clung to low levels until late in 1921, when recovery took place. A fresh fall occurred with the defeat of the conservative government in England toward the close of 1923.

When the radical labor party assumed power capital scurried out of England, coming mostly to the United States. The defeat of the labor government and the return of the conservative party has had the effect of luring capital back to its home land. That is one of the most powerful factors in the advance of sterling. It was powerful enough to offset the adverse influence on London exchange rates of large remittances of sterling to this country in payment for vast quantities of wheat, cotton and other materials, as well as the payment of principal and interest on the British debt.

With the debt instalment paid and the autumn purchases made, sterling is expected soon to reach par value. That would be one more epoch-making development making for international economic and financial stability. Of all the late belligerent nations Germany alone is on a gold basis, as provided by the Dawes plan. Of the non-combatants Holland, Switzerland and Sweden are also on a gold basis. With England turning its back on unstable paper currency a great stimulus will be provided for bringing all of Europe back within the fold of the gold standard. The gold flood is already turning back toward European shores and the danger of gold inflation in this country is lessened while Europe's recovery is speeded. After six hectic years of post-war uncertainty the world

now is making rapid strides toward coveted normalcy.

Stronger Army Air Service Needed

ARMY air service officers in testimony before the house subcommittee which considered the army appropriation bill estimated that a 10-year program of $25,000,000 annually would put the air service in good condition, this sum assuring full equipment after three years as a basis for additions. Pictures of a deplorable state of affairs in the country's air service have been drawn in the public press for months, and the service admittedly needs more equipment and should be improved and developed. Despite forebodings concerning the future development of the United States military air service, these officers told the subcommittee that the United States was the only nation which had three basic elements necessary to create air power.

These basic elements were described as, first, the ability to create a personnel which would stand heavy and continued losses in the air; second, an industry capable of producing proper equipment; and third, means for obtaining the raw ma- observation planes, 102 bombardment planes, 190 pursuit planes and nine attack planes, a total of 1121. These were divided into three classes: The first ready for war duty; the second for use in an emergency, and the third unfit for hard work and really held in reserve for training purposes. Great Britain and France are ahead of the United States in personnel in the air branches.

Since the United States has the basic elements for the development of an air service second to none, a unified air service should be considered as of more importance as a policy rather than a vague dream of the future.

The appropriations committee has recommended a cash appropriation of $14,700,000 for 1925-26 and a contract authorization of $2,150,000. Great Britain for the fiscal year 1924-25 appropriated $95,000,000 and France for the fiscal year 1923-24 appropriated $50,000,000. The present recommendation is only a start, and certainly much remains to be done in this vital field of national defense.

Place Cost Where It Belongs

GOVERNOR BAXTER'S parting admonition, on relinquishing the administration of the state of Maine, not to issue additional bonds for the construction of roads and bridges is of such import to business and industry it may receive wide circulation and application beyond the borders of that state.

New and wider roads and bridges are imperative, more so in many other states than Maine, but to continue building them by means of bond issues rather than current funds is wrong in principle, he says. The present generation should not mortgage the future too heavily. Many of the projects of today will be in need of replacement before the bonds for them have been retired.

The principal objection, however, is that the bond issue method of payment makes for inequitable distribution of the financial burden.

By far the greater part of the road-wearing mileage is run up by car owners who pay few if any taxes other than their state and local automobile license levy. The railroads, factories and stores are assessed for interest and sinking fund purposes. License fees and gasoline taxes should go to improve and build roads. A "pay as you ride" policy would place the burden squarely where it belongs. Some of the governor's observations will be recognized for their soundness, as permanent policy. Let's have improvements, and place the cost where it belongs.

Building Awards at High Rate

WHEN the great total of building construction for 1923 was made known a great many authorities were free in prophesying that the record would stand unequaled for at least some years to come. Those predictions are now being hastily retracted in the light of what has happened in 1924. The awards for new construction in 27 northeastern states for 11 months of the year to Dec. 1, were 558,424,000 square feet. For the period in 1923 they were 549,659,500 square feet.

The record by values is even more impressive. As reported by the F. W. Dodge Co., the aggregate value for 11 months of all awards made in 36 states was $4,154,753,000. This not only is 13 per cent greater than the total for the corresponding period of 1923 but is 4 per cent above the total for the entire year of 1924.

Industrial building this year clearly mirrors the depression of last summer. The total for the 11 months period was 36,865,000 square feet against 56,551,000 square feet in the same period of 1923. The average monthly record of industrial construction in 1923 was about 3,200,000 square feet. This compared with 10,000,000 square feet in 1920 and 15,000,000 square feet as a monthly average in 1919. Clearly there has been little over-expansion of industry in recent years.

In recent months building activities have been increasing. With the expected continued improvement in the general economic situation, the construction industry may be expected to move forward with the procession. There may be less building of homes and more industrial construction, but in any event the general level of building activities promises to remain high for months.

The Postal Subsidy Lie Nailed

By A. O. Backert
President, Penton Publishing Co., Cleveland

FATTENING at the subsidy trough of the post office department is the charge hurled at the publishers of the country's leading business papers and general magazines. Tremendous alleged losses incurred in handling second class mail is the basis for this charge. Whenever postal legislation is under consideration some misinformed congressman or senator raves about the thousands and millions of dollars of subsidy paid annually to the publishers. Unfortunately, these statements, in the past, could not be controverted satisfactorily, actual cost figures not being available. Last year an investigation was started and the report recently was made available. Among other things it shows that second class mail incurred a loss to the post office department of about $75,000,000 in 1923. Of course, other activities showed heavy losses, but immediate discussion will be confined to second class matter.

AMONG the leading publishers charged with profiting most from this alleged subsidy are the Penton Publishing Co. with its periodicals, such as IRON TRADE REVIEW, *The Foundry, Marine Review,* etc.; the United Publishers Corp., publisher of *Iron Age, Hardware Age, Dry Goods Economist,* etc.; McGraw-Hill Co. with *American Machinist, Power, Engineering-News Record* and many others; Curtis Publishing Co. with *Saturday Evening Post* and *Ladies Home Journal.* According to the figures compiled by the post office department and submitted in its cost ascertainment report, it costs the government 2.39 cents per piece for handling and transporting magazines of this class. At last here is a definite figure which the publishers can use for ascertaining the cost of mailing their periodicals.

WHAT are the facts regarding the alleged subsidy enjoyed by these publishers? During 1924, 560,100 copies of IRON TRADE REVIEW were mailed, an average of 10,770 copies per issue. About 20,000 copies were mailed to Canada and foreign countries at much higher rates of postage than paid for United States delivery. For handling and transporting the remaining 540,100 copies of IRON TRADE REVIEW last year, the Penton Publishing Co. paid the post office $15,690.06. According to the figures of the government's cost ascertainment report, the expense for each piece handled and delivered was 2.39 cents. On this basis it cost the post office $12,908.39 to render this service. The profit to the government, therefore, for delivering IRON TRADE REVIEW to its subscribers in 1924 was $2,781.67. A recapitulation of the foregoing figures follows:

Copies IRON TRADE REVIEW mailed in United States, 1924	540,100
Post office cost, mailing per copy, cents	2.39
Post office cost for 540,100 copies	$12,908.39
Penton Publishing Co. paid post office for mailing IRON TRADE REVIEW	$15,690.06
Profit to post office for mailing IRON TRADE REVIEW, 1924	$ 2,781.67

Or about 22 per cent profit

SECOND class postage for mailing approximately 1,000,000 copies of IRON TRADE REVIEW, *The Foundry, Marine Review, Power Boating* and *Abrasive Industry* cost the Penton Publishing Co. $25,685.68 in 1924. On the basis of the cost ascertainment figures compiled by the government, the expense to the post office for mailing these magazines was $22,497.54. The profit netted by the post office was $3,188.14, or approximately 15 per cent. In addition a much higher rate of postage than regular second class was paid by the Penton Publishing Co. for mailing more than 100,000 copies of its publications in Cleveland, to Canada and foreign countries.

MORE startling still are the profits paid the government by the Curtis Publishing Co. for mailing *Saturday Evening Post* and *Ladies Home Journal.* In the halls of congress the charge of the tremendous subsidy enjoyed by the Curtis Publishing Co. has been unrefuted for years. Crucifying big business regardless of the facts is a popular political avocation because it sounds good to the people "back home." Based on the government's cost ascertainment figures, the post office made a profit of $770,461 in 1924 in the mailing of *Saturday Evening Post* and *Ladies Home Journal.* Because

of the excessive price paid for this service, the Curtis Publishing Co. and other publishers of general magazines are making bulk shipments by freight and express at figures below the post office charge.

IF THE government is making a profit on these magazines and periodicals, then where does the loss of $75,000,000 on second class mail come from? Unfortunately it does not occur to the average reader that the 4-page meeting notice of his fraternal organization, labor union, technical society, or other association with which he may be affiliated is masquerading under the guise of a bulletin or a publication entered as second class. He does not know that newspapers and periodicals including bulletins, etc., maintained by and in the interest of religious, educational, scientific, philanthropic, agricultural, labor or fraternal organizations or associations, also are entered as second class mail. Furthermore, this printed matter is handled at a much lower rate than that charged the business papers and magazines. On the advertising contents of the latter publications the second class rate varies from 2 to 10 cents per pound, depending upon the zone in which they are delivered. Contrast this high rate with the flat rate of 1¼ cents per pound charged the other printed matter entered as second class. This rate is 1¼ cents a pound regardless of the zone in which the publication is to be delivered.

ONE weekly bulletin of a technical society received the other day, which has no other value than to announce the date of the next meeting, is entered at the Cleveland post office as second class matter. It consists of four pages and 55 of these notices weigh one pound. The post office receives, sorts and delivers one pound of these bulletins to 55 different addresses at a charge of 1¼ cents. It is known that 1200 of these bulletins are mailed weekly. These weigh about 22 pounds. For rendering this service, the post office receives 27.5 cents per week. According to the government's cost ascertainment report the expense involved in the delivery of each piece of second class mail handled is 2.39 cents. It actually costs the post office department to deliver these bulletins $28.68 weekly or more than 100 times the postage paid. The loss on each issue is $28.405. The loss on 52 issues of this weekly reminder of this society is $1,477.06.

NOR is the foregoing an exceptional case. Some of these bulletins average only 100 to the pound for the delivery of which the post office charges only 1¼ cents. Now try to visualize the thousands and thousands of labor, religious, philanthropic, educational, and other organizations throughout the country that avail themselves of this privilege. Think of the billions and billions of pieces of mail thus handled by the post office at the ridiculous charge of 1¼ cents a pound. This is a source of loss to the post office of millions and millions of dollars and constitutes a large part of the $75,000,000 loss generally charged against the publishers.

BUT this isn't all. Newspapers are delivered without charge in the county in which they are published. The post office department received, sorted and delivered 65,393,277 pounds of these newspapers in 1923 without one cent of revenue.

THE publishers of business papers and magazines who already are paying a profit to the post office for service rendered, again are confronted with another advance in rates. The fact that their second class rate was tripled and quadrupled as a war measure and never was restored to a pre-war basis, does not enter into consideration. The government must have $68,000,000 more revenue if the postal employes are to receive their wage increase. Second class mail and only that part of it that is already more than paying its way is asked to assume about $10,000,000 of this added burden. The newspapers are to retain their free-in-county privilege. Labor, educational, religious and other organizations are going to be permitted to continue to mail bulletins weighing from 55 to 100 per pound at a charge of 1¼ cents a pound. Other real subsidies granted by the post office are to be retained, but the publishers, who now already more than pay their way, are to be called upon *to pay still more.*

IT IS high time that congress decides whether the post office is to be conducted as a service to the people or whether it is to be operated as a self-sustaining business enterprise. If it is to be considered a service to the people, then proper appropriations must be made by congress to provide against deficits incurred in the delivery of mail to remote rural sections of the country. If on the other hand, the post office is to be conducted as a self-sustaining business enterprise, free service now rendered will have to pay its way. Parcel post, which by the wildest stretch of imagination, is not a post office activity, will have to yield millions of additional income.

PUBLISHERS of business papers and magazines are asking only for a square deal. The political smoke screen of alleged losses incurred in handling their publications has been penetrated. The mask enabling this penetration was furnished by the cost ascertainment report of the post office department itself. Arraigned for years under the severe indictment of government subsidy, the post office department merits the thanks of the publishers for providing the argument that has effected their acquittal.

Tide Turns for Tungsten; Big Year Ahead

World Demand Increasing; Continuation of Tariff in This Country To Check Imports; American Mines Sold Far Ahead, and Stocks Low—Sellers Gratified with the Outlook

BY CHARLES HARDY

THE tungsten ore situation was exceedingly interesting in 1924. Early in the year tungsten business was active, with the steel industry operating at capacity, so that all ores entering the steel trade were in good demand.

Stocks of tungsten ores, some of which had been carried in this country since the war and some of which were imported just prior to the enactment of the 1922 tariff, were reduced early in 1924 to about 2500 tons. This tonnage would have been insufficient if business had continued at the January and February rate. These stocks represented salable ore and did not include stocks at works.

In January, 1924, $8.50 a unit was paid for wolframite. Scheelite was held at $9.50, as stocks were negligible, due to the fact that there were no imports, and domestic production had not then resumed. Ferrotungsten was held at 90 cents a pound contained, and tungsten metal powder at 97 cents a pound, through the first quarter.

Beginning with April, however, the market turned. Little business was done in tungsten from that time until the fourth quarter. Then, real business started almost the day following President Coolidge's re-election and the degree of activity subsequently done is comparable only with war days when buyers scrambled to make sure of supplies.

The return of the administration has assured a continuance of the tariff policy and further imports cannot be expected at a price lower than the foreign market plus the duty, which at this moment would equal $9.25 a unit. Sellers here have seen no reason to sell their holdings at a price below the replacement value. In consequence the American market advanced to a level just under the import cost. Ore in hands of dealers and operators was bought up until stocks were reduced to about 750 tons, a quantity barely sufficient to meet normal requirements for more than three months.

Influenced by the better tungsten outlook, the western producers of scheelite opened their mines and now are producing actively. The normal production of the larger western producers has been contracted for all of 1925 and only minor quantities where production may be speeded up, will become available for sale in 1925 unless properties not yet operating resume. However, in view of costs indicated at government tariff hearings, no substantial increase in output is looked for at present market prices.

Converters Enter Field

An important feature of the situation the past year has been the entry into the field of converters as active competitors for all business.

The tungsten market in Europe was dull in 1924. Purchases of ore in the primary markets, such as China and Australia, were on a small scale. German stocks of ore were converted into ferrotungsten and a large quantity of this has been shipped to the United States in bond, where it now is and is likely to be for sometime, as the 67-cent duty on it does not allow competition with domestic material. French stocks, it is reported, will be absorbed in three months. English stocks still are fairly heavy, but with better business now developing all through Europe, it is conceivable the British stocks will be absorbed before many more months have passed.

In summary, the situation looks good. Domestic mines are contracted far ahead. American stocks are small and imports are only possible if the price abroad should go lower, which seems impossible, as world tungsten prices now are practically at the lowest levels in history. On the contrary, the business improvement in Europe and the prospective early appearance of America in the world market as a buyer at an early date undoubtedly will advance world prices considerably. The price which then will govern the market will not be the price now ruling and which really represents the figure at which small lots can be picked up. When the world gets back to buying tungsten in the primary markets and has to pay a price sufficient to stimulate production at a rate commensurate with the world's requirement, the world market will [illegible] above the figures now obtain-

The author is the head of Charles Hardy, Inc., New York.

Court Decision Affects Vessel Capacity

Cleveland, Jan. 6.—Vessel interests with headquarters here are interested in the United States Supreme Court's decision pertaining to the diversion of water from the Great Lakes for the Chicago drainage canal. The court decided on Jan. 5 that Chicago must within 60 days reduce the amount of water it is diverting from 10,000 cubic feet per second to 4167 cubic feet. Henry L. Stimson, secretary of war in President Taft's cabinet, issued a permit for the diversion of 4167 cubic feet per second, but for several years Chicago has been taking 10,000 cubic feet. The court granted the injunction sought by the United States government on the ground that Chicago is violating the order of the secretary. Unless the present secretary of war should allow the diversion of more water, the previous order must be enforced.

Great Lakes vessel interests were represented in the litigation by Harvey D. Goulder, Cleveland, general counsel for the Lake Carriers association. He stated that the diversion of such a great amount of water at Chicago lowered the level of the water in the lower lakes about 6 inches, thereby reducing cargo capacity, for the large vessels carrying iron ore, coal and other material.

Stacks Break Record

Making 36,165 gross tons of pig iron in December, the two Cleveland furnaces of the Otis Steel Co., established a new high production. The previous record run was in October, 1923, with an output of 34,127 tons. During December each furnace made iron at the rate of 583 tons per day, as against 550 tons per day in October, 1923.

The American Chain Co., including some subsidiaries, reports a net income for the quarter ended Sept. 30, 1924, of $312,406 after depreciation. The management states that business is improving rapidly and that the company's gross business in December was larger than any month since June, 1923.

The Business Trend

January 8, 1925

BY JOHN W. HILL, FINANCIAL EDITOR

THE New Year has started out as though it means business. A renewed outburst of stock market activity, a stiff advance for commodity prices, and [illegible] rates for British sterling are among the most significant developments of the early days of 1925.

Tumultous trading marked the opening of the New York stock exchange following the New Year holiday. The average of 50 industrial and rail shares advanced to a new high record for all time. Twenty-five industrial shares rose to 137, compared with the great peak of 138 in the 1919 boom.

Significantly, one of the leaders of the movement was United States Steel common stock. This rose to $123, the highest point reached since the top of the 1917 war market. For the first time since 1918 the price of the common stock went to a higher level than the preferred.

Stocks Rise Continuous

The present stock market movement was given its initial impulse by the favorable outcome of the election. Business and investment confidence then was enormously stimulated. The rise has been sustained by its own momentum, by easy money, and by calculating speculative manipulation.

But underlying the rise of stocks has been the growing confidence in the outlook for business. Industrial leaders have given voice to this confidence in terms which have an extraordinarily true ring. The forecasts this year have a solid basis of fact upon which to stand.

One of the most important of these facts is the reviving economic power of Europe. This was disclosed in a number of striking ways toward the close of 1924. Among them were the great loans to Europe, the beginning of gold shipments to Europe, and the rise of sterling exchange.

British Sterling Climbs

From a low point of $4.20 in January, 1924, British sterling exchange has climbed to $4.75. That is the highest level reached since the "war peg" supporting sterling was removed by the British government on March 20, 1919. The rate is now less than 3 per cent below par of $4.86.

Par value for British exchange is one of the prospects for the early months of 1925. That will be another gigantic stride toward normal world conditions. Of all the European belligerents only Germany's currency now is on a gold basis, as provided by the Dawes plan.

The advance of commodity prices in this country continues. On Jan. 1 Dun's index of wholesale values showed an increase of 2 1/3 per cent in a month. From the low point of the year there has been a rise of 10 per cent. The index is now at the highest level touched since Dec. 1, 1920.

The Barometer of Business

Weekly Comparison

	Last week	Week before	One mo. ago	One year ago	1913
Business failures ..	445	370	399	425	...
Cash ratio Fed. Res. System %..	73.0	70.5	75.1	73.8	...
Loan Rate, 4-6 mos. N. Y. %	3½-3¾	3½-3¾	3¼-3½	5	5½
Aver. price 25 industrial shares..	$138.01	$132.62	$126.14	$112.14	$58.19
Aver. price 25 railroad shares	$79.93	$79.72	$78.49	$60.35	$82.97
Av. price 40 bonds	$82.10	$81.78	$82.45	$77.15	$93.00
Car loadings week ended Dec. 20..	899,776	956,761	1,010,122	.....	*648,400
Commercial loans, 743 member banks (000 omitted)	$8,185,530	$8,190,603	$8,201,250	$7,848,307	.....

*1920

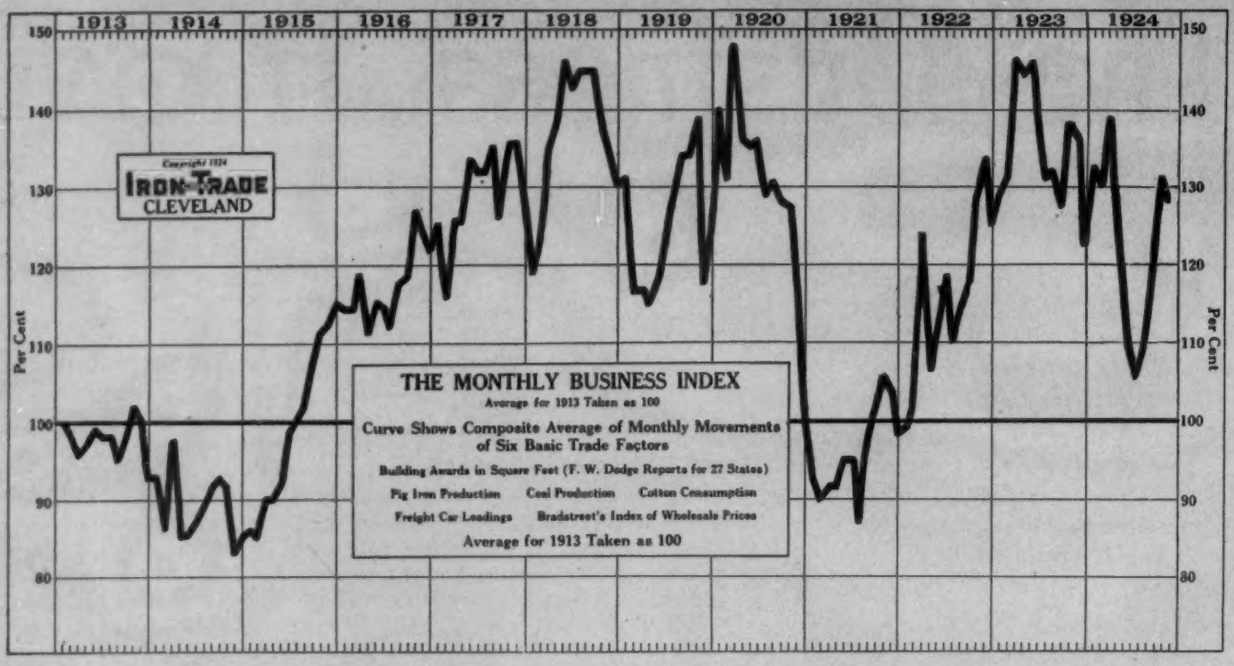
Foreign Exchange (Demand)

	Normal	Last week close	One week before	One month ago	One year ago
Sterling	$4.86	$4.75	$4.72	$4.68	$4.29
Francs	19.3c	5.41c	5.40c	5.43c	4.93c
Lira	19.3c	4.23c	4.28c	4.34c	4.30c
Marks	23.8c	23.8c	23.8c	23.8c	....

Monthly Comparison

	Nov.	One Month before	One Year ago	1913 Mo. average
Dodge Building awards in 27 states (sq. ft.)	49,012,200	47,489,800	52,599,500	31,250,000
Business failures:				
Number	1,653	1,696	1,704	1,336
Liabilities ..	$31,123,910	$36,098,804	$50,291,708	$22,732,000
Exports	$494,000,000	$527,000,000	$401,483,872	$233,195,000
Excess of gold imports	$13,160,407	$15,576,274	$39,010,642	†$630,716
Bureau of labor price index ..	152.7	151.9	152.1	100
Bradstreet's price index	146.4	144.4	145.4	100
Economist's British price index	178.2	178.4	167	100
Nat'l Industrial Con. board living cost index.	165.2	165	165.3	‡100
New incorporations	$574,096,000	$543,490,000	$811,848,599	$49,301,000
Railroad net earnings	*$127,105,000	$116,000,000	$103,775,700	$59,301,000

†Excess of gold exports. ‡July, 1914. *October.

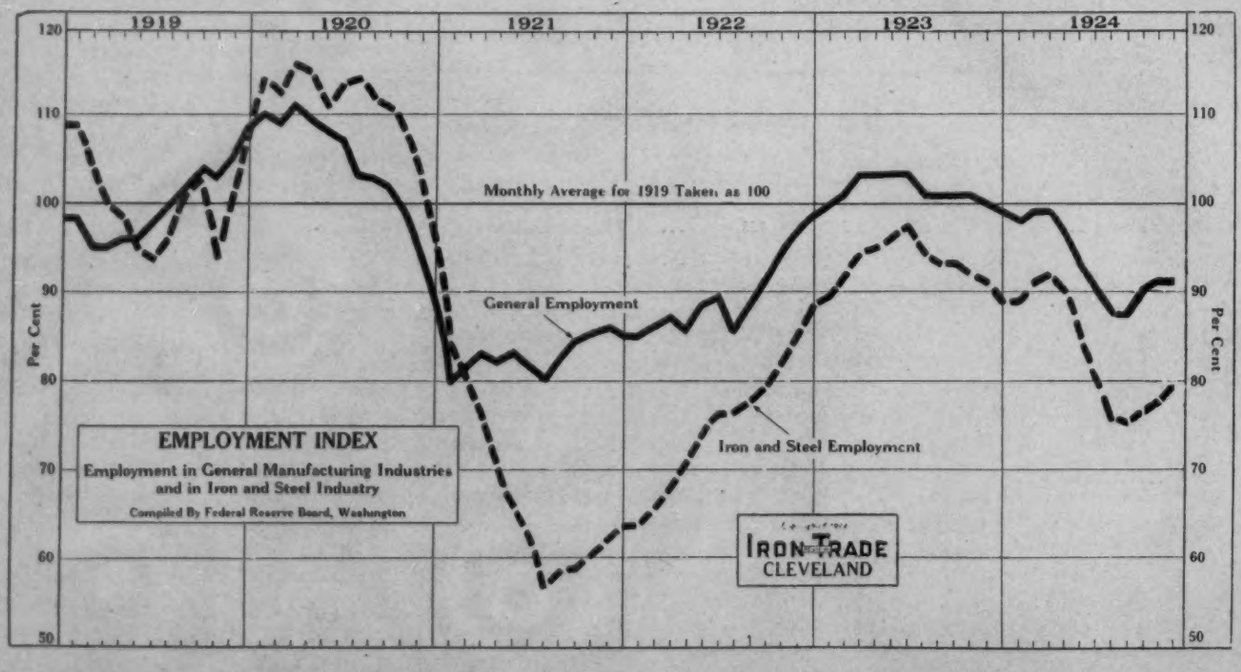


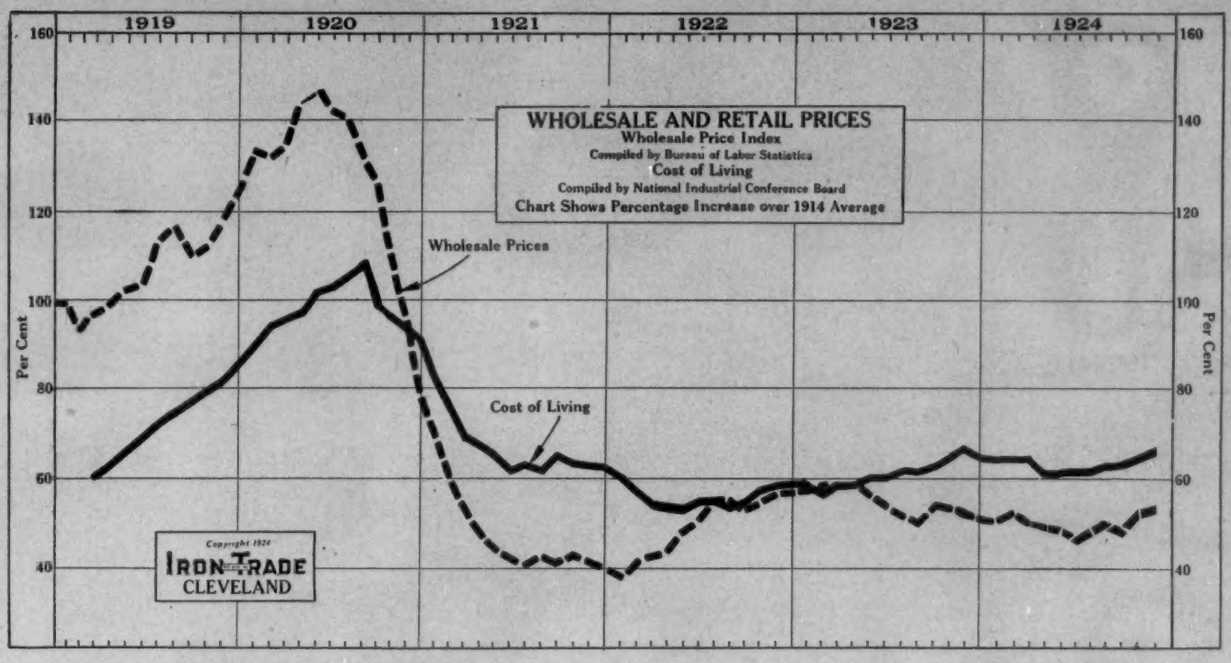
Business Index

IRON TRADE REVIEW'S Monthly Business Index gives no support to those who believe industry was speeding too fact as it approached the year's end. For November the index declined slightly from the October level. The figure was 128 against 131 for the preceding month. The bottom level for the year was 105.5. Of the six basic trade factors three, pig iron production, Bradstreet's prices and building construction, increased. Traffic, cotton consumption and soft coal output all show declines.

Employment Index

THE closing months of 1924 saw employment in the iron and steel industry on the upgrade. In general industry, the index of employment, as compiled by the federal reserve board, merely held its own in November. The figure of the index was 91 per cent of the 1919 average. This compared with the low point of 87 per cent in the summer. In iron and steel plants the index was 79 per cent of the 1919 average against 78 per cent in October and a low point of 76 per cent last summer.



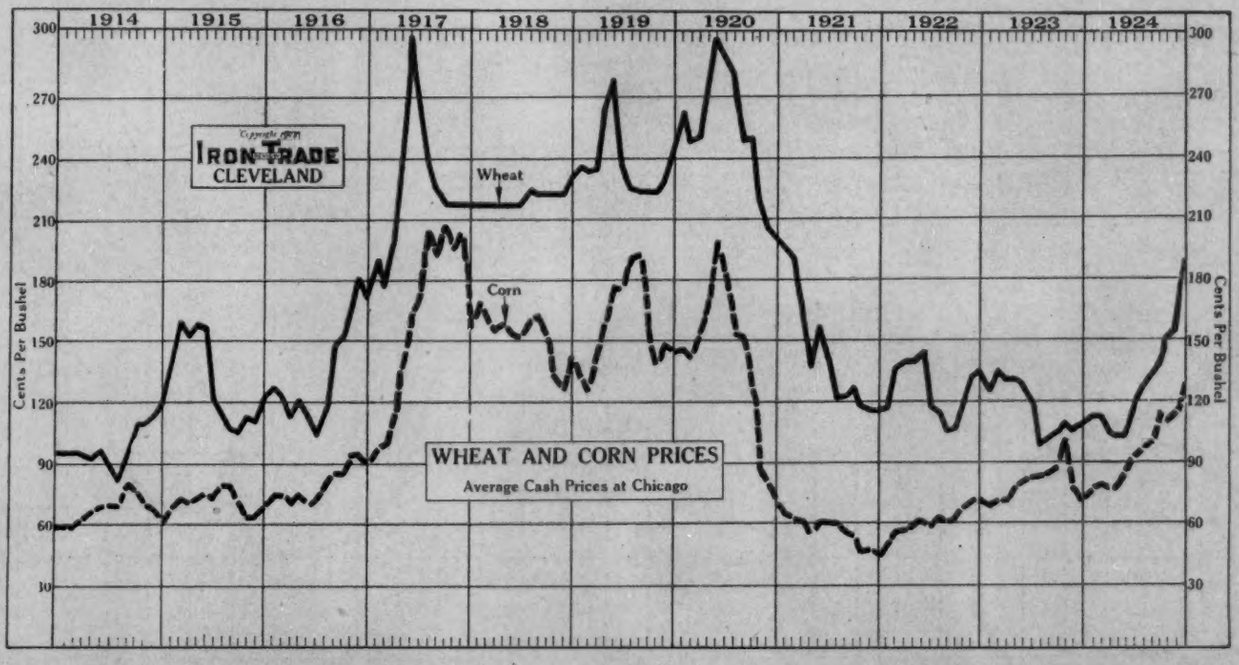


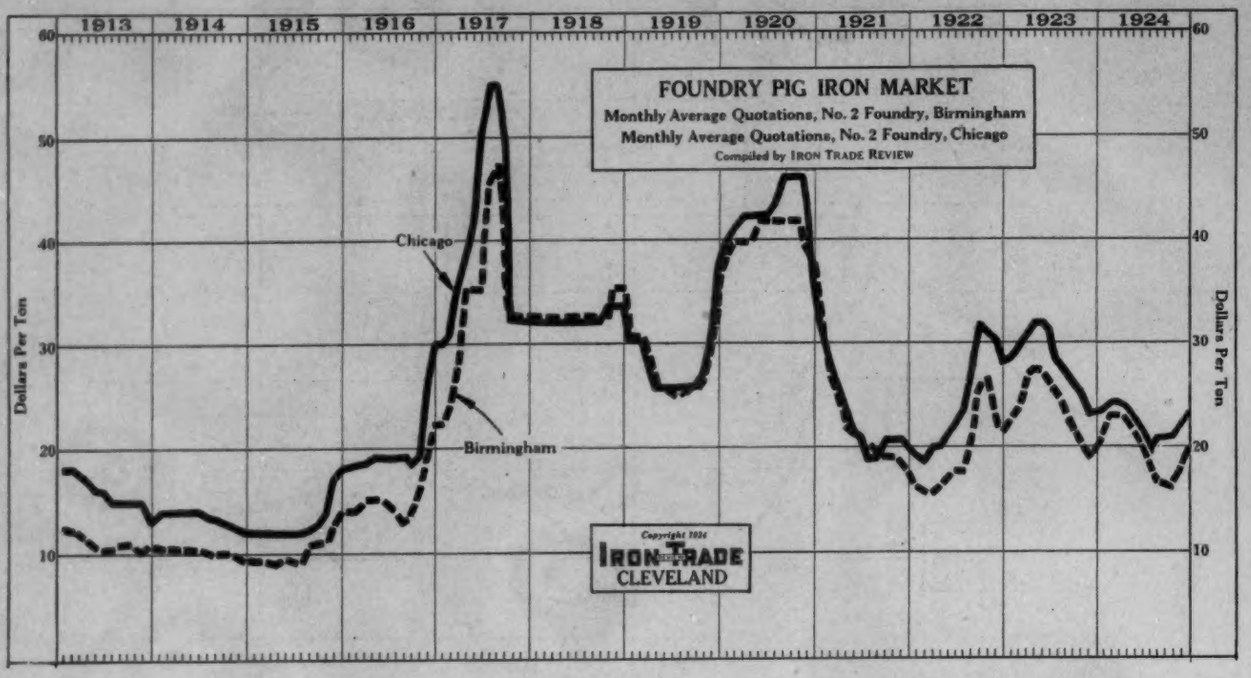
Wholesale and Retail Prices

THE beginning of the New Year found both wholesale prices and the cost of living advancing. The lowest point for wholesale prices as measured by the bureau of labor statistics index, was 45 per cent above the 1913 average in May. Except for a small decline in the early fall, the curve tended upward during the last half of the year. On Dec. 1 the index stood at 52.7 per cent above the 1913 level. The cost of living has increased from a low of 61.4 per cent above 1914 in May to 65.2 per cent above in December.

Wheat and Corn Prices

THE lowest average monthly price for cash No. 2 red wheat at Chicago in 1924 was $1.06 a bushel in May. The lowest price for No. 3 mixed cash corn was 77.05 cents a bushel, also in May. From that point there has been a spectacular advance with few interruptions. At the close of the year No. 2 red had reached $1.90 a bushel, a gain of 80 per cent, while corn was at $1.29, a gain of nearly 70 per cent. As a result of these increases the value of farm crops in 1924 exceeded that of 1923 by $753,013,000.





Foundry Pig Iron Market

ONE of the most important developments of the last half of 1924 was the advance of prices of pig iron. The low point of the foundry pig iron market was reached in the summer. Chicago No. 2 foundry iron was $20.40 a ton in August. Birmingham No. 2 averaged $17.65 in September. In September No. 2 Chicago advanced slightly to $20.50. By November it was $21 and at the close of the year it was $23.50. Southern iron was $17.90 in November and $20 at the close of the year.

Coal Index

THE production of coal increased in November. Consumption, as estimated by the National Association of Purchasing Agents, gained. With the exception of January, the consumption total for November was greater than that of any month during 1924. Of all industries reporting stocks and consumption of coal, 72 per cent showed increased use, 17 per cent unchanged and 11 per cent consumed less coal than in October. Stocks of coal on hand on Dec. 1 were sufficient for 41 days use against a 5-days supply on Nov. 1.

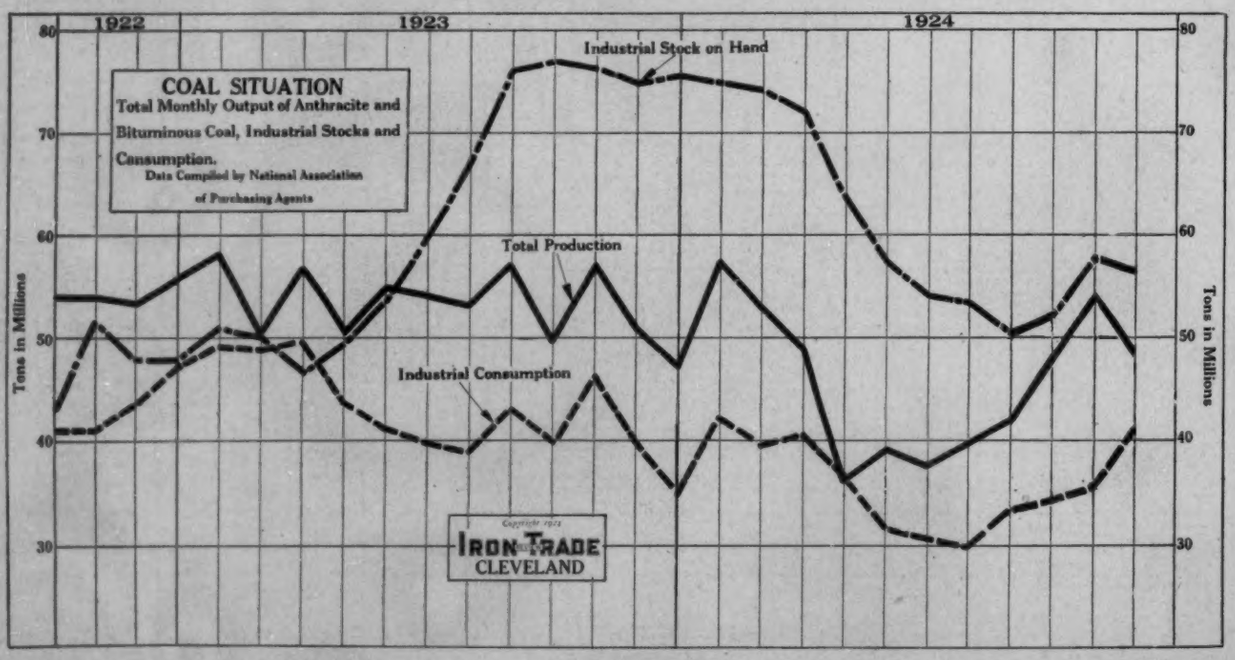


Fig. 1—Insulating powder being placed between brick and shell of hot blast stove

The powder is of the same material as insulating brick and has practically the same effect

High Temperature Insulation

A Plain Statement of Fundamentals in the Problem of Reducing Heat Losses from Industrial Furnaces

UNTIL a few years ago, radiation losses from heated equipment were considered an uncontrollable source of waste. Operators knew these losses existed but they were considered as a matter of course and few positive attempts were made to determine what they were actually costing in dollars and cents.

The first intelligent attempt at reducing heat losses in modern industry was the use of insulation for covering steam pipes. Even this development is comparatively recent, although at the present time practically all steam pipes are covered with insulating material of some kind. During the last 10 or 15 years, however, there has been a broader and much more important application of heat insulation and this article deals especially with what is here termed "high temperature insulation." This applies to temperatures far above that of steam and for which materials originally developed for insulating at steam temperatures are not suited.

As a result of a survey of data regarding the percentage of heat lost in industry in the United States, it is estimated that the waste of industrial heat approximates one billion dollars a year.

The advent of the heat balance sheet in industrial operations has clearly brought out the large proportion of the heat generated which is lost by conduction through and radiation from the walls and other exposed surfaces of various types of equipment. The heat losses due to conduction and radiation average over 25 per cent of the total available heat in the fuel.

Heat is a form of energy consisting of molecular vibrations of periodic character and subject to the general laws of wave motion, and can be reflected, dispersed or retarded by suitable mechanical means. Heat is transmitted from one place to another by three methods—radiation, convection and conduction; the definitions of which are well known and need not be gone into.

It should be clear at the outset that heat tends to flow from a region of high temperature to one of low temperature and thus becomes unavailable for use, just as electricity at high potential dissipates itself unless suitable insulation is used. In the loss of heat from a furnace wall there is involved, first, the transmission through the wall to the outer surface; and second, the giving out of that heat from this outer surface to the air, which carries it away. No more heat can be transmitted through the wall, at equilibrium, than is emitted by the outer surface of that wall.

Considering the variables separately, the quantity of heat transmitted through a wall varies directly with the area of the wall, the temperature difference between the hot and cold surfaces of the wall, the thermal conductivity of the material of which the wall is composed, and inversely with the wall thickness.

The rate of emission of heat from the cooler face of the wall depends upon various factors—mainly, upon the surface temperature, the temperature difference between the wall and the adjacent air, the rate of circulation of air, and in lesser degree, upon the nature of the surface of the wall, its color, degree of smoothness, and material.

Radiation losses rise rapidly with rise in temperature and it is consequently increasingly important to reduce heat losses at the higher temperatures. For instance the steel casing of a furnace at 180 degrees Fahr. will radiate 240 B.t.u. per square foot per hour while at 360 degrees Fahr., the loss will be 1000 B.t.u. per square foot per hour.

While transfer of heat by conduction

Stopping a Bad Leak

MILLIONS of dollars are being lost to American manufacturers because valuable heat is allowed to escape from industrial furnaces. High temperature insulation offers a means of partly stopping this leak. The accompanying article, which deals with the elementary phases of furnace insulation is from a lecture prepared for educational purposes by the Celite Products Co., Chicago.

applies to the three states of matter, it is of importance only in dealing with solids. Since conductivity is responsible for the greater portion of the heat transmitted through a wall, it is in this form of heat transmission that we are particularly interested.

For some time there was a general belief that since air is a poor conductor of heat, air spaces built into the walls of boilers, furnaces, etc., would prevent or reduce heat loss through the walls. Messrs. Ray and Kreisinger of the United States bureau of mines ran a series of exhaustive tests on air spaces used as an insulation and showed that this artifice defeats its own purpose at high temperatures because of the fact that the hot surfaces of the air space radiate heat so rapidly that a greater amount is lost across the space by radiation than would be conducted were the air space to be filled with material of relatively high conductivity such as fire brick. The reason for this is easily seen when we realize that the quantity of heat passing through a portion of a solid wall by conduction depends upon the difference between the temperatures of the two planes limiting the portion of the wall; while the quantity of heat that passes across the air space in the wall depends on the difference between the fourth powers of the absolute temperatures of the surfaces enclosing the airspace. It follows that in the case of the heat passed by conduction through the solid portion of the wall, the loss remains approximately the same so long as the relative temperatures of the two limiting planes remain constant, no matter what may be the actual temperatures of the two planes. On the other hand, the heat passing across the air space by radiation increases rapidly with the temperature of the enclosing surfaces although the difference between these temperatures may remain constant.

For low temperature insulation, such as refrigeration, hollow wall spaces are used to good advantage. Similarly, hollow tile, while satisfactory in ordinary building construction, affords no insulating value at higher temperatures.

A good refractory material is essentially strong and dense and is consequently highly conductive. In order to prevent excessive heat loss, a furnace wall must either be built up of great thickness, which is costly, gives an inelastic wall and absorbs a large amount of heat not used in productive work, or be built to include as a component of the wall, a layer of some material of lower thermal conductivity, called the insulator.

The rate of heat flow through a wall depends upon the resistance of the component materials to the heat waves. Generally speaking, a material having a low apparent density is considered to be a good insulator. Most such materials contain a number of small "voids" or cells containing air. There is danger, however, of having the cells too large and having radiation across the spaces and convection currents within the cells, which increase the apparent conductivity. Roughly speaking, if the cells are large enough to be seen with the naked eye, they are large enough to be instruments of heat transfer by radiation and convection.

Fire brick with a minimum conductivity of 6.7 B.t.u. per square foot per hour at 400 degrees Fahr. increases in conductivity to 13.3 B.t.u. at 2400 degrees Fahr. Insulating brick averages about 12 times as effective in retarding the passage of heat as the refractory. The low conductivity of this insulating material is due to the fact that it contains a volume of as much as 85 per cent of infinitesimal air cells which effectively break up the heat waves. The term "infinitesimal" is used advisedly as it is estimated that there are from forty to fifty million of these cells in each cubic inch of the natural rock. Being practically pure silica (SiO_2) the material has a high melting point, 2930 degrees Fahr., as determined by the United States bureau of standards. This permits its use as insulating material in practically all types of heated equipment. It is recommended strictly as an insulating material, however, and in no case should the refractory linings be eliminated, principally due to the fact that insulating materials are not physically constituted to withstand a great deal of abrasion. On the other hand the crushing strength is unusually high, averaging over 400 pounds per square inch.

Heat Losses and Outside Wall Temperatures

Thickness of wall, inches			Temperature of Furnace, Degrees Fahr.													
Fire Brick	Insulating Brick	Red Brick	3000		2500		2000		1750		1500		1250		1000	
			B.t.u.	T.	B.t.u.	T.	B.t.u.	T.	B.t.u.	T.	B.t.u.	T.	B.t.u.	T.	B.t.u.	T.
18	9	4	205	215	150	185										
18	4½	4	310	255	250	235										
18	2½	4	440	325	350	280										
18		4	880	545	715	455										
13½	9	4	210	220	155	190										
13½	4½	4	320	280	255	245	190	210	160	195						
13½	2½	4	470	335	370	290	280	245	235	225						
13½		4	1020	605	830	510	635	420	540	375						
9	4½	4	360	275	280	240	210	210	180	190	150	170	120	155	90	140
9	2½	4	500	355	405	310	310	265	265	240	220	220	170	200	125	175
9		4	1210	705	980	595	755	480	640	425	530	370	410	315	300	260
4½	4½	4							180	210	150	195	120	180	92	162
4½	2½	4							280	265	235	240	185	215	138	187
4½		4							790	490	660	415	530	355	400	290

Determining Rate of Conduction

In most cases the substitution of a 4¼-inch course of insulating brick for a course of common brick in furnace walls will cut down the loss by from 65 to 70 per cent.

Assuming a furnace operating at 1800 degrees Fahr. (temperature of air 70 degrees Fahr.,) with walls constructed of 9 inches of fire brick and 8 inches of red brick, the heat loss is approximately 552 B.t.u. per square foot per hour. If, on the other hand, the wall were composed of 9 inches of fire brick, 4½ inches of insulating brick and 4 inches of red brick, the heat loss would be about 189 B.t.u. per square foot per hour. In other words, without increasing the total thickness of the wall, the heat loss is cut down 66 per cent from that of the uninsulated construction.

The accompanying table shows the effect of insulating various thicknesses of walls at different temperatures. A comparison of insulated and uninsulated walls of the same thickness is shown in the fourth and sixth lines, both walls being 22 inches, the one having 18 inches of fire brick and 4 inches of red brick and the other 13½ inches of fire brick, 4½ inches of insulation and 4 inches of red brick. Heat losses in the insulated wall are 320 and 255 B.t.u. at 3000 degrees Fahr. and 2500 degrees Fahr. respectively, as compared with 880 and 715 B.t.u. for the uninsulated wall, a saving of 63 per cent by substituting insulating brick in place of one course of refractory.

Insulation is now being successfully applied to practically all types of equipment, including boilers; many types of furnaces; core, coke, baking and enamel drying ovens; oil stills and storage tanks; water gas sets and coal gas retorts; hot blast stoves and mains; soaking pits; brick, lime and cement kilns; glass annealing lehrs; etc.

Fig. 2 shows insulating powder being installed between the fire brick and steel shell of a hot blast stove. This insulating powder is the same material as the brick, having practically the same insulating value. Similar insulating is used in the generator, carburetor and superheater of water gas sets.

In most coal fired equipment 4½ inches

of insulation is used. However, in cases where higher priced fuel or electricity is employed, a considerably thicker layer of insulation should be used. For instance, Fig. 1 shows 9 inches of insulating brick in an oil-fired enameling furnace. In many cases of electrically heated equipment as much as 20 inches of insulation has been found economical. Naturally, the higher the cost of developing each B.t.u., the more money can be economically invested to confine it within the equipment for effective use.

It should be mentioned, however, that there are a few cases where the use of insulation is not advisable, due to the limitations of present commercial refractories. For instance, up to the present time open-hearth furnaces, which operate at temperatures considerably over 3000 degrees Fahr., have not been insulated over arches or in side walls above the level of the molten bath.

In designing equipment for all applications of heat in industrial processes, there are a great many factors as well as that of heat insulation, to be taken into consideration, among them being temperature control equipment and the kind of fuel and refractories most suitable. Of these, the intelligent use of insulating materials is one of the most important factors contributing toward economical operation.

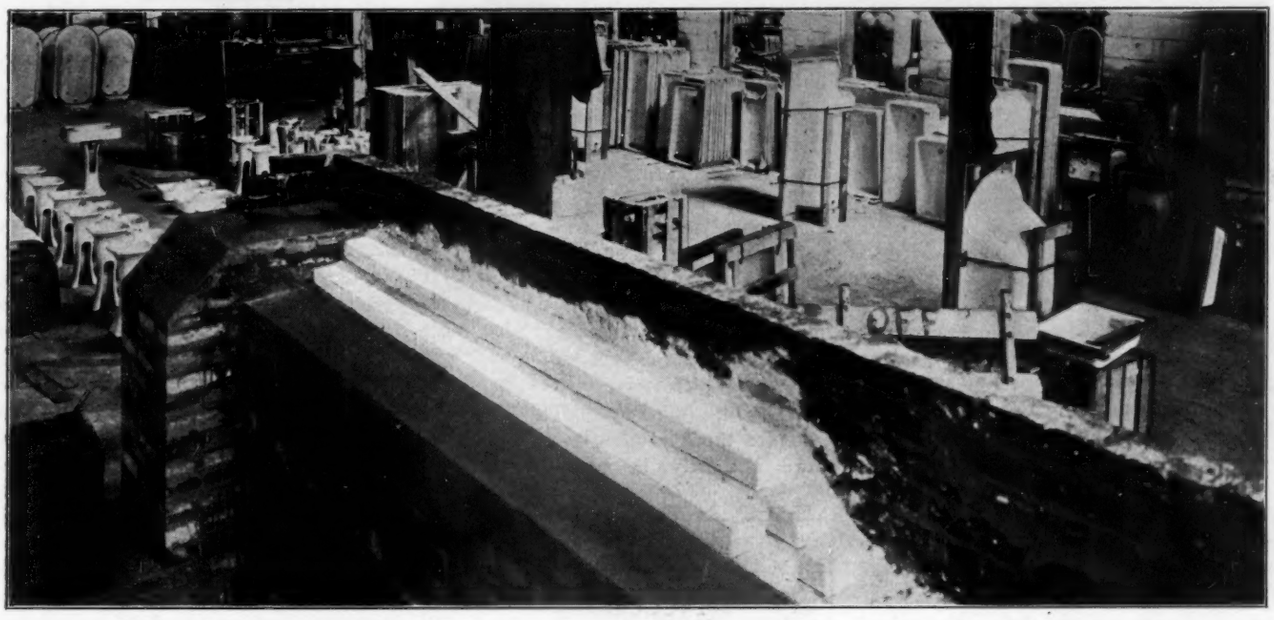


FIG. 2—LAYING 9-INCH INSULATING BRICK IN WALLS OF AN OIL-FIRED ENAMELING FURNACE

Studies Quenching Media

Quenching experiments recently were conducted by the United States bureau of standards with solutions of widely different physical properties in order to develop, if possible, those factors of greatest importance contributing to high "hardening power". No general conclusions can be drawn until further experiments and compilation of data have been made.

It is interesting to note that the addition of as little as 0.003 per cent by weight of sodium oleate to water at 20 degrees Cent. reduced the cooling velocity at 720 degrees from 150 to about 35 degrees Cent. per second; likewise 0.06 per cent by weight of soap caused a decrease from 150 to about 25 degrees Cent. per second. The first mentioned solution is extremely unstable and "broke down" when used for the second time.

Ethyl alcohol (95 per cent) was found to have the lowest "hardening power" of any liquid so far tested in this experiment.

Experiments with sodium chloride brines at 20 degrees Cent. indicate a material decrease in hardening power as the concentration of salt in the water is increased above about 20 per cent.

Equipment for experimental study of pressure quenching has been designed and parts ordered.

Completes Steel Bridge in South America

Final tests of the new steel bridge built by an American company across the Rio Santa Lucia recently were held in Uruguay, Trade Commissioner L. B. Clark reports to the department of commerce. A loaded train 101 meters long and weighing 383 tons was used in making the test, the results of which were entirely satisfactory as the bridge was constructed to carry a weight of 634 tons per 100 meters.

The bridge itself is 540 meters long and consists of four spans of 45 meters each, one swinging span of 60 meters, and three spans of 100 meters each. It is 6 meters wide and has a concrete floor with railway track down the middle. Steel employed in construction totaled 2954 tons. Work was started on the bridge in January, 1924, and was finished at a cost to the country of 632,962 pesos. The celerity and facility with which the job was completed has been the subject of much favorable comment in Uruguay.

This bridge will open up some fine country, the development of which hitherto has been held back for lack of adequate facilities for transport across the Santa Lucia river. An ancient raft drawn slowly by a cable from bank to bank has in the past been the only means of crossing the river at this point, and the high charges for this service have kept traffic at a minimum. It is expected that the bridge will be placed in use this month.

Initial operations at the new plant of the Superior Steel Products Co., Monaca, Pa., will begin during the later part of December. The output of the company will be confined to the cold drawing of steel in diameters 2 inches and smaller.

A new coal fired heating furnace with a hearth 10 feet x 27 feet 8 inches recently was completed at the plant of the Elyria Iron & Steel Co., Elyria, O.

"Come in and get your wheel and put the old one on the scrap pile. I've got something to do besides wrestling with grinding wheels."

A Dollar Saved Is a Dollar Earned

A Few True Stories of Thrift in Industry

WHILE truing the sides of a wheel which he had just mounted on a crankshaft grinder, Bill, the operator, found he had cut the width 0.01-inch undersize. He swore softly so as not to shock the lady machinist who operated a grinder next to him and went to the foreman, asking for a requisition slip for another wheel. The latter functionary, engrossed in endless details, for this incident happened in the busy days just before the Armistice, signed the requisition without comment. The operator of the crankshaft grinder ambled over to the supply room window with the wheel he had cut undersize and his requisition.

The flapper attendant glanced at the requisition and then at her carefully manicured nails. "Come in and get your wheel and put the old one on the scrap pile. I've got something to do besides wrestling with wheels."

"Yes," he retorted with a grin as he came in and closed the supply room door, "I notice your overworked —wonder the company wouldn't supply you with a rocking chair. You'll never die of hard work you can take it from me.

"Oh, go chase yourself," she rejoined as she threw a spare oil can in his general direction. The missile flew wide of its mark by six feet and knocked the shop cat off a ledge where he was sleeping away the effects of his last night's activities.

The foregoing is a fair sample of the lack of control over costs during the busy times of a few years ago. Economy was scoffed at and shop discipline was lax. Today a grinding machine operator cannot true the side of a crank wheel undersize and "get away with it." His foreman will want to know the whys and wherefores. The careless workers have been replaced by more efficient ones and the young girl stock room attendants are absent. In their places are men who are more reliable and who exert more authority in handling supplies than the girls employed during the boom days.

Industry truly is in a makeover stage wherein waste is being eliminated slowly but surely. During the war, any concern could make money—today it is the survival of the fittest and the company which watches extravagant practices and corrects them is the one that will survive.

Examples of saving can be seen on every hand and the following is a typical illustration. The sales manager of a grinding wheel company noticed that the Azby Mfg. Co., had not purchased its usual 90 days supply of 12 x 2-inch wheels which were used for a rough grinding operation. It was not a large account, about 100 wheels every three months, but naturally the sales manager resolved to investigate. Another three months rolled by without an order, whereupon the salesman who called habitually on the Azby company was called in.

"Jim," said the sales manager, "how is it you don't sell the Azby company any more wheels? Has someone else beat you to it?"

"No," Jim replied, "none of our competitors has got the business and I'll explain why we don't get it anymore. (It is stated confidentially that all salesmen are good explainers.) The Azby Mfg. Co., is buying wheel stubs, nice looking ones mind you, for 25 cents each, I estimated 2500 in one pile, so you can see that our chances of getting this business back are remote."

"Jim, do you mean to tell me that the Azby company bought 2500 wheel stubs for 25 cents each and that these

Economical Operation Necessary

DOES your plant produce on a paying basis or does it just produce? The former spells success and the latter failure. No end of economies can be effected by investigating grinding problems closely. In this article are outlined a number of instances where efficient abrasive operation saved the day. Do any of these apply to your plant? Industry now is in the makeover stage. The costly practices of war times are a part of the past. The dawn of economical operation is at hand. To stay in the game today the plant must not only produce at low cost but it must turn out material economically enough to meet keen competition. It is a case of the survival of the fittest. For example, more automobiles are in use today than ever before but the number of automobile manufacturers is decreasing yearly. The fit survive and the incompetent fall by the wayside. In which class are you?

stubs will do the work our wheels did."

"So it seems. They got them from a junk dealer who bought them from an ax manufacturing plant that was being dismantled. It seems at the ax plant they had been buying 20 x 2 wheels for years, using them down to 12 inches and throwing them away. Of ocurse, such practices are not to be recommended, but it seems that the reclaiming of abrasives is sure to develop to a greater or less extent. Already in my territory there is one large company which has established a wheel salvage department—and neither we nor our competitors are getting the volume of orders from that company that we should. This economy game is ruining our business."

"Now look here, Jim, don't try to kid yourself and don't get excited over the wheel salvaging proposition. Furthermore don't think we or any other grinding wheel manufacturers are going to lose money by it for we aren't. Take your Azby Mfg. Co. for an example. I doubt if the wheels they bought from the junk dealer will do the work ours will. To begin with, they are too hard and too coarse, if they are stubs from an ax factory. The thing for you to do is to call again on Robinson and get him to test a few of the junkman's wheels against ours. An actual test, mind you, where the amount of metal ground away from actual work in a given amount of time is to be the factor sought. Look after this test yourself and let me know the results.

"Of course, I know what your next question will be. You will want to know what we are to do about it if the junk wheels show up as superior. In that case the Azby company will have all the more capital to invest in extending their grinding operations. They can throw out some of their antiquated methods and install modern abrasive processes."

Care of Diamonds

During the boom times, diamond tools used for wheel truing were indeed an item of considerable expense. Used often by careless operators, stones would be knocked out of their settings and lost, or fractured through improper use. Today diamond tools are entrusted to experienced operators, and are turned in for resetting frequently. The gradual introduction of the precision mechanical dresser has aided materially in reducing wheel truing costs. While diamonds always will be used for certain wheel truing operations, there also is a field that can be served by the mechanical dresser.

Matters which appear trivival in themselves often prove to be sources of unwarranted expense. The following incident will illustrate this: The general superintendent of an automobile manufacturing plant happened for a few moments to watch the operator of a disk-grinding machine surfacing parts and testing them with a gage. Convinced that something was wrong he carried out a quiet investigation and ascertained that 20 disk grinders were used throughout the plant. He examined drawings of various parts and with the co-operation of an abrasive engineer connected with a leading disk grinding manufacturer, he came to the conclusion that the grinding allowances were excessive. The result was that changes were made in various patterns and production costs decreased materially as excessive metal was not being ground away.

TWENTY-FIVE HUNDRED PERFECTLY GOOD WHEELS

Substantial savings are being shown by routing work properly through the shop. A typical automobile manufacturer who had enjoyed several years of prosperity began to lag behind—his costs were excessive and he was not meeting competition. A conference was called, the ax fell, and several high salaried employes went looking for other jobs. The plant was reorganized from one end to the other. The straight-line system was installed wherein by means of mechanical conveyors various parts were transferred from one machine to the next. The grinding department was done away with. Instead, grinding machines of the necessary types were installed wherever needed in the line. The group system of employment was instituted. That is, a group of men were given certain operations on certain parts. The labor of one individual was as vital as that of the others.

Then if one "soldierer" held up production, the group lost no time in telling him in the choicest Billingsgate where to head in. Production in this particular factory was brought to normal and the close competition f rival manufacturers met successfully.

"I have found," said the manager of a medium-size manufacturing plant recently, "that it pays to listen to a grinding wheel or machine salesman once in a while. A particularly persistent wheel man used to call regularly every 60 days. In desperation I gave him a trial order one day to get rid of him. But I didn't get rid of him by a long shot. He insisted on being present when his wheel was tested. The first thing he did was to increase the work speed from 20 to 50 feet per minute. Our grinding room foreman thought he was crazy. However, the theory of this persistent salesman was that the higher the work speed the faster the traverse feed and consequently the more production. Simple isn't it? Well, not one production engineer in one thousand thinks of it. The trouble is that wheel

speeds, work speeds, and traverse feeds are adjusted indiscriminately until a combination is found that will do the work satisfactorily. My persistent salesman started in with a high work speed and made his other factors conform to it. Since that time he has revolutionized our grinding methods and needless to say he is saving us thousands of dollars annually."

Careful Tests Necessary

More attention is given to the testing of abrasive materials today than ever before. Years ago the method was to pass a trial wheel to the grinding machine operator and to take his word as to whether it was better or worse than the one used regularly. Now not every grinding machine operator is competent to test a wheel. The man's report may be prejudiced, or he may be unduly influenced. Thus he frequently follows what he thinks is the safest policy by stating that the trial wheel is not as good or no better than the one used regularly. Today such haphazard methods have been discarded for more scientific tests carried out under the supervision of a man who knows how to go about a wheel test intelligently and how to prepare the necessary data pertaining to it. Thousands of dollars can be saved by testing trial wheels in the right way.

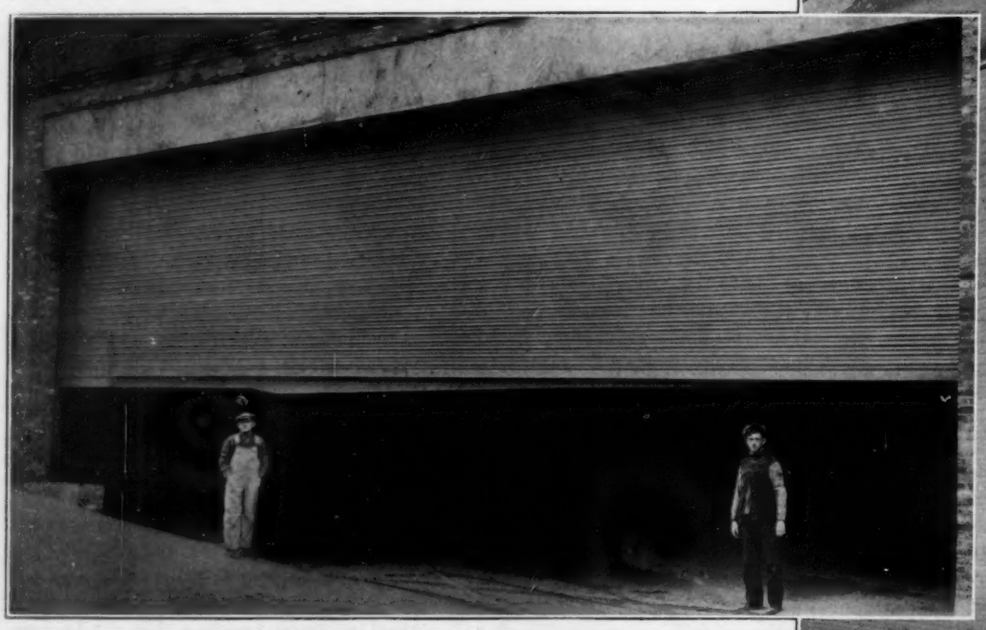
Reluctance to install modern equipment where it is actually needed often results in substantial losses that could be avoided. A typical incident happened at the plant of a midwestern parts manufacturer. A salesman interested the manager of this particular plant in a grinding gage which would eliminate the necessity of stopping work for calipering it. The gage met all expectations and the salesman felt sure of an order for at least half a dozen. Imagine his chagrin when the manufacturer refused flatly to buy even one gage. He stated that the price was too high, that they had got along without such refinements in the past, etc. This manufacturer because of his lack of progressiveness, went out of business a year or so later. He could not meet competition and stay in the game and he is one of thousands.

Economies are being effected all down the line wherever abrasive materials are used. The hit-or-miss-methods of yesterday have given place to the more reliable investigations of the abrasive engineer who considers every grinding problem from a production angle. Simplification of methods, discarding of useless operations, installation of up-to-date equipment including automatic machines for specific operations and rearrangement of work schedules are a few of the important factors that are aiding in keeping grinding production costs down to normal in everyday practice.

Sweden Making Steel by Direct Process

The Uddeholmverket in Sweden has for some time carried on experiments with an electric furnace for the purpose of making iron and steel direct from the ore says Commercial Attache Sorensen, Copenhagen, Sweden, in a report to the department of commerce. The product thus obtained is, according to newspaper reports, of excellent quality, equal, if not superior to siemens and bessemer steel. The success of this process, it is claimed, makes possible the manufacture of iron and steel at much lower prices than at present, the estimated reduction in cost being about 50 per cent. The new method is of particular value to a country possessing considerable resources of water power.

Rolling Steel Door Covers Unusually Large Door Opening in Brooklyn Plant



A STEEL door 45 feet wide, 17 feet high and weighing 2 tons recently was installed at a Brooklyn, N. Y., plant by the Cornell Iron Works, Inc., New York. It is fabricated from No. 16 gage galvanized interlocking steel slats. The door rolls around an overhead horizontal shaft of stiff construction and 47 feet between supporting brackets. Twelve helical springs counterbalance the weight. The electric motor and gearing shown in the right-hand illustration raise and lower the door.

Large Uses of Steel In Small Ways

RATS belong to one of the most prolific species of animals in existence. They multiply at an astounding rate and their number is practically inexhaustible. Serious and interesting studies have been made of economic losses sustained by the world due to their voracious attacks on food, the damage to property incidental to their search for food, and the expense entailed in attempts at extermination. All of the annoyance caused by this huge army of rodents was accepted by the world with a certain degree of philosophy until medical science discovered that the rat was a carrier of the bubonic plague.

Keep Rats at Home

From the time of this discovery, civilized governments have been at great pains to take every possible precaution to prevent carrying rats from one part of the world to another. It is obvious that ships serve as means of transport to these pests and in recognition of this fact regulations to prevent their entrance have been promulgated by the United States public health service. Fumigation of ships coming into American ports is required at certain intervals. As the rat is an agile animal and can leap through space and easily walk or run on a tight or slack rope, the regulations call for breasting a ship off from the dock a distance of four feet, placing circular discs not less than 36 inches in diameter on every line connecting the ship with the dock, and raising all gangways and other connections to shore except when actually engaged in loading and discharging. The accompanying photograph show such discs or guards being placed on the lines of a ship immediately on docking at the port of New Orleans. Though a federal provision, the health authorities at all ports are vitally interested and are expected to and do rigidly enforce this regulation.

Must Be Large Size

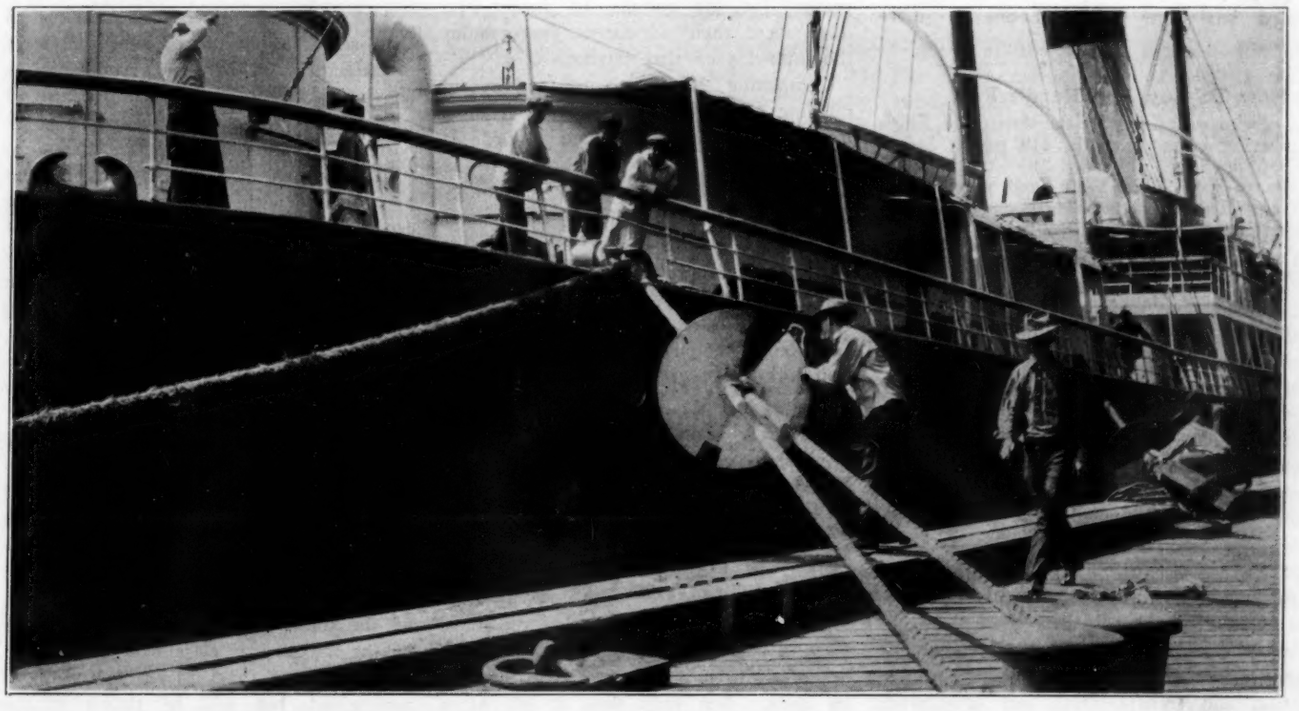
These rat discs or guards must be at least 36 inches in diameter. They are usually made as shown in the accompanying sketch, of galvanized sheet steel in two halves, and are secured to the ships' lines by clamping the halves of the sleeve about the line and by tying them firmly together.

Estimating an average renewal of eight discs per year per ship, at a net weight each of 12 pounds, between 150

Rat Guards

THIS is the twenty-ninth of a series of articles dealing with some of the obscure uses of steel which go far toward absorbing the great American tonnage.

The first article on "Corsets" appeared Nov. 22. Other articles were "Pins," Dec. 6; "Pens," Dec. 20; "Cotton Ties," Jan. 17; "Steel Wool," Jan. 31; "Toys," Feb. 14; "License Plates," Feb. 28; "Spinning Rings and Travelers," March 13; "Hypodermic Needles," March 27; "Card Clothing," April 10; "Shoe Steel," April 24; "Tie Plates," May 8; "Crushed Steel," May 22; "Tacks," June 5; "Skates," June 19; "Knives and Forks," July 3; "Phonograph Needles," July 17; "Surgical Instruments," July 31; "Fence Posts," Aug. 14; "Needles," Aug. 28; "Eyeglass Cases," Sept. 18; "Golf Clubs," Oct. 2; "Fishing Tackle," Oct. 16; "Mechanical Pencils," Oct. 30; "Dental Drills," Nov. 13. "Burial Caskets," Nov. 2; "Pocket Knives," Dec. 11; "Telephones," Dec. 25.



RAT DISKS ARE FASTENED ON THE HAWSERS OF EVERY SHIP THE MOMENT IT TOUCHES DOCK

and 200 tons of steel a year is necessary to supply American ships with this bit of important compulsory equipment. For the entire merchant fleet of the world on the same basis, from 1200 to 1500 tons of steel is used per year.

Reviews of New Books

Standards, Full And Tentative

A. S. T. M. Standards, 1219 pages, 6 x 9 inches; published by the American Society for Testing Materials, Philadelphia, and supplied by IRON TRADE REVIEW, postpaid in cloth at $8 to members and $11 to nonmembers, half leather, $9.50 and $12.50 respectively, and in Europe by the Penton Publishing Co. Ltd., Caxton House, London for 40 and 55 shillings net.

Recognized as authoritative in the field of engineering the standards and tentative standards of the American Society for Testing Materials are presented in this triennial publication for the use of engineers and all interested. It contains 220 standards, including 75 relating to steel and iron, 39 to the nonferrous metals, 28 to cement, lime, gypsum and clay products, 19 to preservative coatings and seven to coal and coke. A portion of the volume is given over to description of standard methods of metallographic testing of iron, steel, nonferrous metals and alloys with recommendations as to photography in metallography. Standards adopted by the society in years between issues of the volume and published as annual supplements. Full approval of a standard by the society is given only after the tentative standard has been published one or more years.

* * *

How To Buy And Handle Fuel

Industrial Coal, by the American Engineering council; cloth, 419 pages, 5¾ x 8¼ inches; published by the Ronald Press Co., New York, and supplied by IRON TRADE REVIEW at $5 postpaid, and in Europe by Penton Publishing Co. Ltd., Caxton House, London for 25 shillings, net.

Purchase, delivery and storage of coal are the points covered in an engineering survey of the possibilities of improving present methods, for the benefit of producers, carriers and consumers. The government's coal commission and other government departments collaborated with the American Engineering council and the survey was conducted by more than 400 engineers in various industrial centers, the report being formulated by a committee of engineers, all recognized authorities.

One of the conclusions reached by the survey is that greater storage will do much to bring about more even production and transportation and save much of the recurring shortage that besets consumers. The consumers, who are most benefitted by stable conditions, are urged to apply the needed balance wheel themselves, through larger storage practice. The foreword is signed by John Hays Hammond and engineers of equal prominence have covered various phases of the subject. To the large consumer of fuel much valuable information is available in this volume.

* * *

A Century of Education

A Chapter in American Education, by Ray Palmer Baker, cloth, 170 pages, 5 x 7½ inches, published by Charles Scribner's Sons, New York.

No further proof need be given of the important place Rensselaer Polytechnic Institute has occupied in the educational, political and industrial history of this country than the facts set forth in the chapters of this book dealing with the careers of its graduates. Scarcely a department of activity lacks numerous shining lights whose education was drawn from this alma mater. The author, professor of English in this school, treats his subject with a touch gained from long association with it and in his very method reveals something of the reason for the success of those who have spent their formative years under the influence of that institution.

Completing 100 years of activity in molding thought, Rensselaer Polytechnic institute has made a proud record. It was the first school of agriculture as well as the first school of technology in the United States, though the former activity was dropped after a decade. It has been followed by others, but it blazed the way. Reading of this brief volume will give a better idea of what has been accomplished as a result of its foundation a century ago.

* * *

Making A Name Real

Charles Proteus Steinmetz, by John W. Hammond, cloth, 489 pages, published by the Century Co., New York, and furnished by IRON TRADE REVIEW, at $4 postpaid; and in Europe by Penton Publishing Co., Ltd., Caxton House, London, for 20 shillings, net.

Though a biography this life of Steinmetz, a wizard in his calling, is likely to be read with more pleasure than most of its class. Not only does it tell of a great engineer and a great career, but of a loveable and gentle personality. In addition to this it tells the true story of a man whose name has been surrounded in the popular mind with many myths and superhuman accomplishments. The author writes from personal knowledge of his subject and a number of chapters written before the death of Dr. Steinmetz were approved by him. Other chapters were completed with the cooperation of Dr. Steinmetz' foster son, J LeRoy Hayden, with whom he lived.

Economic Structure Found on Sounder Basis

The annual survey of the department of commerce shows 1925 begins with the economic structure of the world upon more solid foundations than at any time since the war. With the exception of a few spots of secondary importance there has been during the past year a real advance toward social, economic, and political stability throughout the world. The only exceptions are Russia and China, which even before the war contributed less than 3½ per cent of international commerce. Generally the world is producing more goods, there is fuller employment, standards of living are higher, more assurance of economic stability for the future and more promise of peace than we have seen for many years. The world is by no means free from liability to economic shock, yet the forces today in motion all tend to great promise for the forthcoming year.

Pattern Making Doubles

The department of commerce announces that, according to the biennial census of manufactures, 1923, the establishments engaged primarily in the manufacture of models and patterns, not including paper patterns, reported products valued at $30,164,709, an increase of 91.6 per cent as compared with 1921, the last preceding census year. The principal products of establishments classified in this industry are models and patterns for use in making matrices or molds for casting metal or for making brick, glassware, etc.; hat blocks, pottery braces, wax braces, wax figures, dress and show forms, stamping outfits, etc.

In addition, models and patterns were manufactured to some extent as secondary products by establishments engaged primarily in other industries. The value of such commodities thus produced outside the industry proper in 1921 was $432,206, an amount equal to 2.7 per cent of the total value of products reported by the industry as classified. The corresponding value for 1923 has not yet been ascertained, but will be shown in the final report of the present census.

Germany Is Striving to Compete

Her Present Position in Relation with Other European Countries Is Described—Effect on American Exports Gaged—Difficulties Due to Under-Consumption and Lack of Financial Facilities

BY VINCENT DELPORT
European Manager, Iron Trade Review

GERMANY is convalescent. Furthermore, the German nation, apart from all political differences of opinion and disturbances, is working and working hard. Such are the outstanding impressions of a visitor east of the Rhine at present. Immediately the questions arise: What will be the influence of such a powerful factor as Germany in the world's iron and steel markets? How will the metallurgical industries of the other European powers react to Germany's re-entrance into the field? How will America be affected?

The Reichstag in Berlin. Recent elections have strengthened the majority that have favored the acceptance of the Dawes report

To anyone who goes about the streets of Berlin, or one of the large German cities, there are outward signs of prosperity and normal commerce, although since the creation of the rentenmark, prices of nearly all commodities are at a higher level than in any other western European country. The streets are thronged with people, traffic is congested just as in large cities in Europe or America; cafes, theaters and other public places are well patronized; money is being spent.

But as usual the darker side is hidden, although it exists, and Germany is not yet in a position to justify any overestimation of her immediate exporting capacity. This is not because of restricted production, but owing to the difficulty for German exporters to finance foreign business.

Export Business Vital to Germany

The need of sufficient credits to finance the exportation of their surplus products has been the obstacle against which not only German but also Belgian and French manufacturers have been stumbling since the end of the war. They were more willing to expend considerable amounts of money toward the reconstruction or the extension and improvement of their plants.

If Germany obtains the necessary credits, all her attention will be directed toward export business, for she feels that an intense foreign trade with the largest possible balance in her favor will enable her to meet the obligations which she has contracted through her acceptance of the Dawes plan. The successful floating of the external German loan was a first step in this direction. The proceeds of the loan will not only infuse a new health in German finances, but also will enable the German manufacturers to be reimbursed with some profit for the reparations in kind which will be directed to France and Belgium. In this respect these two countries will feel the more immediate effects of German export trade in their own markets.

Germany will need a wider and more profitable field for her surplus products, and with this object in view she will need more loans. To what extent it is difficult to tell, the limit probably being determined by the securities which she still is in a position and willing to offer. In the meantime, Germany is using her knowledge of foreign markets obtained through past experience and present investigations to prepare her plan of campaign and determine her export policies for the future. Her export facilities can only increase gradually and for the time being they are comparatively small. Although taxes have been reduced in Germany, taxation is a heavy burden on industry; inland freight rates are high and it is not likely that the operation of the German railroads under the new plan will be conducive to reductions. Germany has to pay a price for ore, of which she had a plentiful supply prior to 1914. Last, but not least, credit although easier still is insufficient to boost export trade. However, the other steel producing countries of Europe also have seen their production costs rise to high levels, and Germany enjoys certain advantages.

Table I

German Output and Foreign Trade

(In thousands of gross tons)

	Production of raw steel	Iron and steel exports	Exports, per cent of production	Imports
1913..	17,300.0*	5,700.0	33	300.0
1920..	6,600.0	1,700.0	26	314.4
1921..	8,700.0	1,650.0	19	800.0
1922..	9,000.0	2,500.0	28	1,800.0
1923..	6,000.0	1,300.0	21	1,700.0
1924..	8,500.0	1,200.0	14	1,000.0

*Without Luxemburg

Eight Hour Day Lost

Although the 8-hour day is fixed by law in Germany, men in the iron and steel plants work 10 hours a day and often more. The policy of the authorities is to shut their eyes. As to the workmen's associations, they are lying back. They are less centralized and are not as powerful as the British trade unions; furthermore, they lack funds.

According to many statements the law will be amended in the near future and if some of the industrialists have their way there will be many infringements on the 8-hour day. This fact gives Germany a decided advantage over other countries. Belgium is perhaps the nation where the 8-hour law is applied with the utmost stringency; there are practically no exceptions. Many Belgian workmen have crossed the frontier to work longer time in France. In the latter country, the 8-hour law also exists, but there are legal exemptions. Employes have a certain number of hours to their credit in order that they may make up for any suspension of work

GERMAN PLANTS ARE FITTED WITH THE LATEST TYPES OF MACHINERY. VIEW OF HEAVY FORGING PRESS

due to accidents to machinery, festivities, bad weather, slack time, etc. In Great Britain the 8-hour day also is enforced, but by the trade unions, and there are very few exceptions, if any.

With regard to wages, conditions are somewhat similar in the continental countries. The average German workman in the iron and steel industries is paid about 70 pfennig an hour or 5.60 rentenmarks for an 8-hour day. At the current rate of exchange this would correspond to $1.34, but since the working day is almost always 10 hours in Germany at present, the day's wage amounts to seven marks or $1.67. Beyond 10 hours an increase of 25 per cent is paid for each extra hour. Thus production costs increase to some extent when overtime exceeds two hours. In the mines the miners are paid by the shift. It has been said that in certain districts where the cost of living is reduced, even skilled workmen are paid as low as 35 pfennig an hour. or 2.80 marks for an 8-hour day ($0.67). In Belgium the base for wages is around 3.50 Belgian francs per hour or 28 francs per day ($1.38); in France, three French francs per hour or 24 francs per day ($1.30). In England the average wage reaches 10 shillings a day ($2.35). On the other hand, conditions of living are somewhat easier in France and Belgium than in Great Britain and Germany.

The temper of the workmen in the various countries also differs to some extent. Conditions are perhaps the worst in Belgium where requests for wage increases, followed by discussions and strikes, are almost incessant. A Belgian who holds a responsible position among the leading manufacturers in his country said recently that in view of the increase of the living index, the labor syndicates are preparing to demand further wage increases. It was stated that for the first time in the history of Belgian industry all employers have decided to refuse to grant any advance; if necessary a general lockout will be ordered. Agitation has started in some Belgian coal mines. In Great Britain labor has been quiet since last spring, and in France waves of discontent on a rise sporadically. In both countries labor troubles generally loom in the background.

In Germany the working classes are not so restless, at present, partly owing to the weakness of the workmen's associations. Workmen often do not pay their dues to the organizations and the necessities of the movement urge them to work a long day in order to increase their earnings. In many industrial circles this comparatively quiet period is looked upon as transitory, and requests for higher wages are expected to develop during the winter. The last increase amounted to about 7 per cent and was granted in October.

Employers claim no further advance can be granted without loss of money to their firms. However, if demands are moderate and do not appear too rapidly, undoubtedly they will be met, at least half-way. Unemployment, which is the heaviest burden Great Britain has to bear, with 1,190,000 out of work, also prevails in Germany where according to official figures the number of unemployed is 500,000, although the fact is the total number ranges from 1,000,000 to 1,500,000.

Markets Where Germany Competes

Germany still has many difficulties to overcome if she is to take a prominent share of international trade. The quicker she obtains financial facilities, the more rapid will be her resumption of business. For the moment, and apart from central Europe and Scandinavia, Germany has a footing in Japan and South America where she has been selling principally beams, railroad track material and wire products. These are markets where America must be prepared to meet Germany when the latter country regains her strength. Germany also has sold plates and sheets to China and wire products to British India and South Africa. On the other hand, it is unlikely that the Germans will ever export large tonnages to the United States or that American steel will find a regular outlet in Germany. Competition will arise between the two countries in outside markets, particularly South America and in the Orient and Far East.

Although the world is on its way to produce more iron and steel than it ever did before, the tonnage can be absorbed if confidence is restored. It is futile to expect that sound conditions will be reestablished suddenly. Not only Germany, but all Europe is convalescent, and a return to nomal life must be gradual. For the moment a general desire for a settlement is prevailing and extreme methods are giving way to business-like negotiations. Whatever the issue may be, the restoration of sound conditions cannot be arrived at if any one of the leading European powers is sacrificed to the interests of others. Iron and steel industries have become such a powerful economic factor that their influence outreaches boundaries and in-

Table II

European Iron and Steel Exports

(In thousands of gross tons)

	Germany	United Kingdom	France	Belgium	Total of preceding countries	United States
1913	5,700.0	4,969.2	619.2	1,550.4	12,838.8	2,907.6
1920	1,723.2	3,250.8	928.8	920.4	7,823.2	4,708.8
1921	1,650.0	1,696.8	1,605.6	907.2	5,859.6	2,172.0
1922	2,516.4	3,400.8	1,936.8	2,110.8	9,964.8	1,938.0
1923	1,306.8	4,320.0	2,182.8	2,494.8	10,304.4	1,945.2
1924	1,200.0	3,900.0	2,900.0	3,310.0	11,210.0	1,800.0

volves all steel producing countries.

In 1923 Germany alone produced about 17,300,000 gross tons of steel ingots and castings. This total includes the production of Lorraine and the Saar district but excludes Luxemburg. The total German exports of iron and steel in the same year were 5,700,000 tons. Imports of iron and steel were only 300,000 tons. These import and export figures include those of Luxemburg which then belonged to the *Verband*. Since the war and in her present boundaries, Germany's iron and steel exports show a lower percentage, and imports have greatly increased, as in Table I.

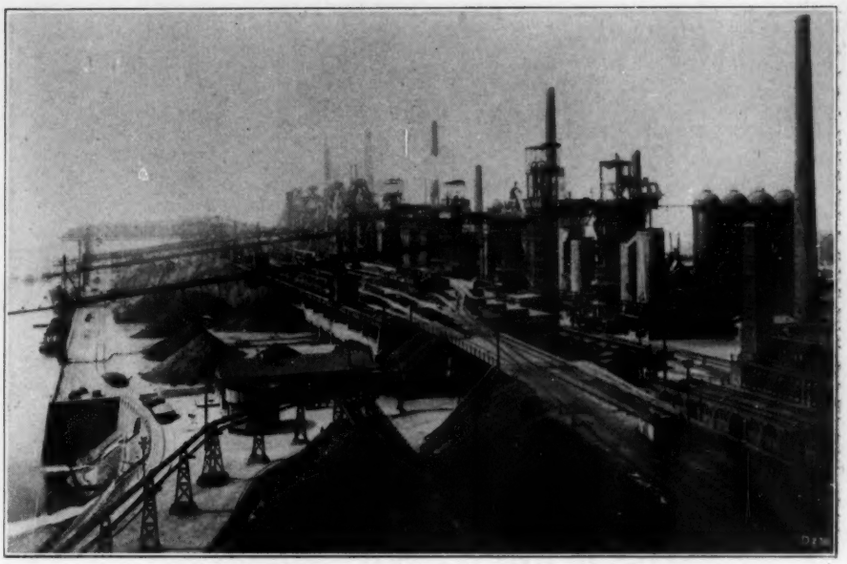
It should be noted that since 1919 German production figures are estimated as no official statistics were published in Germany from that time. On the other hand, import and export figures do not include Luxemburg any longer, the Grand-Duchy now being part of the Belgo-Luxemburg economic union, and they do not include either the tonnages shipped to France and Belgium under the provisions of the treaty of Versailles on account of reparations in kind. Furthermore, returns for 1923 and 1924 are incomplete on account of the Ruhr occupation.

The figures are sufficient to show Germany's capacity of iron and steel exports since 1919. The total capacity of production of steel in Germany now is estimated at 14,000,000 tons. Assuming that in 1925 the plants operate at 80 per cent of capacity, production for the year will exceed 11,000,000 tons. With the increasing tendency of exports noted at the end of 1924, it may be anticipated that Germany will be able to export 2,000,000 tons of iron and steel in 1925.

U. S. Exports Comparatively Low

It is of interest to compare the iron and steel exports of the four leading European countries with the exports of the United States in 1913 and since the war. The tonnages shown in Table II are based upon the average monthly figures compiled by the National Federation of Iron and Steel Manufacturers in Great Britain and the Comite des Forges in France. The 1924 figures and the German figures from 1920 onwards are estimates compiled from authoritative sources including the Micum reports. The Belgian returns include Luxemburg from July 1, 1922, onward. The 1913 figures for Luxemburg are included in Germany's returns. For the same reasons as mentioned with respect to Table I, German figures are incomplete, thus the postwar totals are minimum figures.

Production of steel of the same countries is given in Table III. Many interesting comments could be made with regard to these two tables. The low percentage of the United States exports in relation to the European exports, except for the years 1920 and 1921, is apparent in Table I, also the fact that since the war the United States' production has consistently exceeded that of Great Britain, France, Belgium, Luxemburg and Germany combined, as shown in Table II.



COAL HANDLING EQUIPMENT AT GERMAN BLAST FURNACES ON THE RHINE

Perhaps the most striking feature is that the combined production of the United States and the five European countries has practically equalled the 1913 production, except for 1920 and 1921, whereas export figures have remained well under those of 1913. In 1924 European exports and the United States' exports were about 1,600,000 tons and 1,000,000 tons respectively below the 1913 export figures. As the uses of steel are increasing and heavy tonnages of construction work have been kept back, this would tend to indicate that the uneasiness which has been prevalent in most iron and steel industries during the latter years is due, not so much to over-production but more to under-consumption brought about by the financial situation of most European countries.

At the beginning of 1925 the tendency of iron and steel production is to increase. To prevent the situation becoming more acute, either gold will have to be released more freely, or production will have to be restricted. No doubt in the event of the first assumption coming true general economic conditions would stabilize and confidence would be restored in the world markets.

Will Restrict Production

In the meantime, restriction of output is the talk of the day and the first step in this direction has been taken in Germany by the Raw Steel union. This union comprises 95 per cent of the German raw steel producers. It does not interfere with prices or sales of steel products. Its object is to control the steel output of its participants and to keep production within the limits of the demand. For December, the union has already fixed the rate of steel production at 80 per cent of the total capacity of its members, which is estimated at 14,000,000 metric tons.

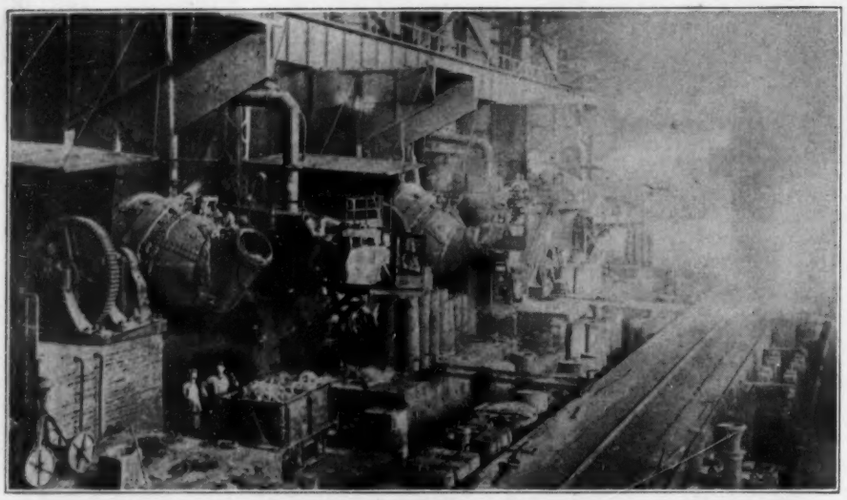
The thought that an international entente between iron and steel manufacturers would tend to ease the situation of the industries has been growing recently. Conversations on the subject have taken place for some time between leading producers of various countries, and

Table III

Steel Production in Leading Countries

(In thousands of gross tons)

	Germany	United Kingdom	France	Belgium	Luxemburg	Total	United States
1913	17,348.4	7,663.2	4,614.0	2,427.6	1,308.0	33,361.2	31,300.8
1920	6,624.0	9,067.2	3,002.4	1,233.6	560.4	20,487.6	42,132.0
1921	8,700.0	3,703.2	3,054.0	753.6	742.8	16,953.6	19,784.4
1922	9,000.0	5,881.2	4,464.0	1,540.8	1,371.6	22,257.6	35,602.8
1923	6,000.0	8,481.8	5,029.0	2,249.9	1,182.3	22,943.0	43,239.6
1924	8,500.0	8,400.0	6,850.0	2,850.0	1,850.0	28,450.0	37,000.0



A BATTERY OF BESSEMER CONVERTERS AT KRUPP'S. A TYPICAL INSTANCE OF GERMANY'S POWERFUL STEEL PLANTS. THE CAPACITY OF PRODUCTION OF STEEL IN GERMANY IS 14,000,000 TONS

as usual, imaginary forecasts have been built up in many quarters on the several plans which have been devised tentatively. However, at this time apart from the general commercial treaties which are being negotiated between Germany and the other powers, there are no international iron and steel syndicates in view. With the exception of the German Raw Steel union, there are no prominent national pig iron or steel syndicates in existence and it is not likely that any international combine will be arrived at unless national organizations are first created.

Such national syndicates or *comptoirs* existed before and since the war in France and Belgium, also in Germany in prewar years. The French and Belgian combines became extinct about two years ago; some attempts were made to re-establish them, but with no avail. The liquidation of certain French comptoirs is not yet completed. Many difficulties stand in the way of the revival of such combines, especially when the important question of quotas arises, and negotiations to this effect are long and tedious. In all probability they would be still more so when the interests of producers of different nationalities would become involved.

The question of creating an international organization for the control of steel production has been put forward by the German experts in recent negotiations with the French, and if anything is to come of it the first step would be toward the formation of a rail syndicate such as existed before the war and in which the United States was a participant. In Germany the possibility of an international raw steel combine is favorably commented upon in certain industrial quarters; but the difficulties are not overlooked and the prospects of an international steel association can only be seen as an event in the far future.

A more limited aspect of the entente problem relates to the respective positions of France and Germany from the point of view of steel production and export possibiltiies. France has retrieved the highly productive province of Lorraine. The French now own the whole area of the Lorraine iron ore mines. Before the war about 50 per cent of the output of these mines was in German hands and was used by the plants located in the Rhenanian and Westphalian territory. At that time also the plants of eastern France purchased coal and coke from the Ruhr district. Now that France owns all the Lorraine iron ore it is logical that the same exchange of Lorraine ore or *minette* and Ruhr coal should take place as before. The events of the past three years have interfered with this exchange, but a standing agreement will eventually be concluded. This is the sentiment in Germany as well as in France.

Another current of opinion was noted in Germany according to which the German plants now can do without Lorraine minette and be independent of France. This result would be obtained by using Swedish and Canadian ores which contain from 55 to 75 per cent iron against 28 to 32 per cent in the Lorraine ore. These ores cost more but enable the German producers to consume less coke and it is estimated that the final cost of production would not be greater. It is true that important contracts for Canadian and particularly for Swedish ores have been passed recently and for long periods. A competent authority in Berlin points out that Swedish ores are normally used in northern Germany, but Lorraine is the natural source of supply of ore for the Ruhr plants, and the agreement between France and Germany must come sooner or later. This view also is held by leading observers in Great Britain. That country is greatly interested in the outcome of any negotiations that may arise on the subject, but is maintaining a reserved attitude.

The relations of France and Germany are not only limited to an exchange of ore and coal. In 1924 the portion of Lorraine recovered by France produced about 3,000,000 tons of pig iron and 2,350,000 tons of raw steel. This represents about 40 per cent and 35 per cent of the respective total productions of France. In prewar years this output was part of the German supply and was needed by the German transforming mills, especially in the Rhine districts. Thus the normal outlet of Lorraine raw steel is southern Germany and the Ruhr.

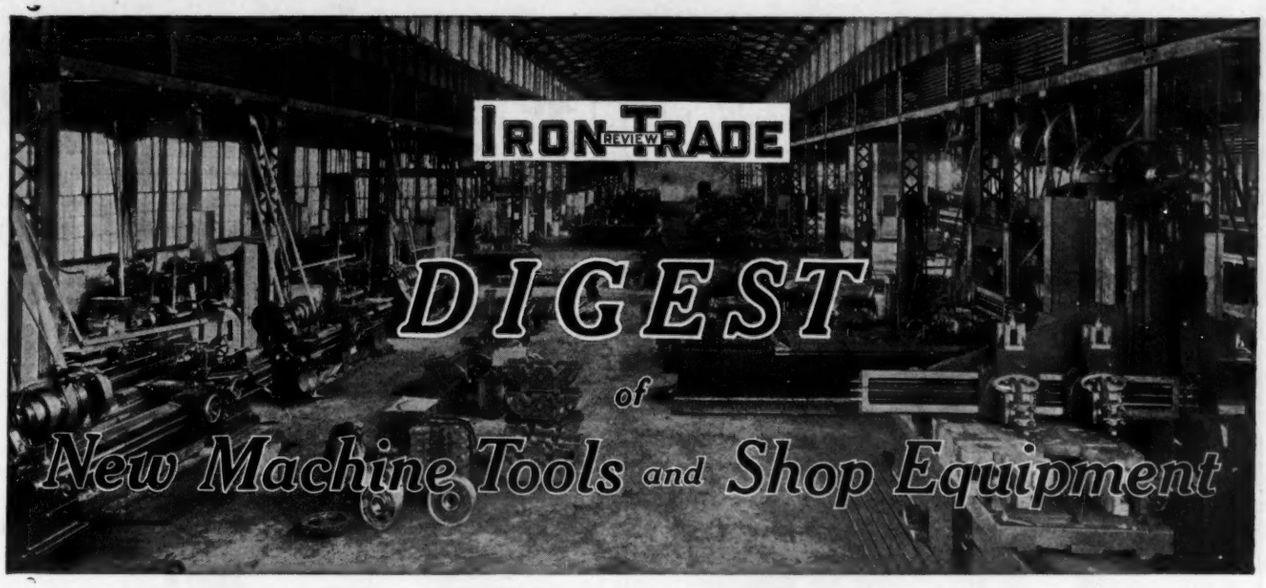
In later years the Germany plants in the Essen district have extended sufficiently to enable them to increase their capacity of production by about 30 per cent in order that they could, at least

(*Concluded on Page 167*)

German Competition Another Bogy?

WITH the leading nations of the world on a better business basis today than at any time since the war, commerce and industry increasing rapidly, what is the position of Germany in respect to international trade? German competition following the war impressed some observers, who believed that country was threatening American business abroad—but, it was only a "bogy." Now with the Dawes plan in operation, and the successful flotation of the German loan, is German competition to be "the real thing?"

The accompanying article written by the European manager of IRON TRADE REVIEW *analyzes the situation carefully. Certain points are emphasized: German export facilities can only be increased gradually, and more financial means are necessary for success. The German people are working ten hours a day, although the law prescribes eight. The workers prefer the longer hours, and government authorities overlook the infraction. A German steel plant worker earns $1.67 in ten hours. The fundamental fact is that the German are showing characteristic industry. This has resulted in overproduction, and production must be reduced, or more gold obtained to finance exports. An international iron and steel organization seems improbable for the present.*



Knowledge of Costs Wins Faith

Prospective Buyers Want Guesswork Removed from all Phases of Distribution of Machine Tools—Confidence in Quotations Depends on Marketing Methods —December Tools Reflect Refinements in Handling of Details

JOHN JONES is a successful manufacturer of washing machines, vacuum cleaners, etc. He has a reputation for being a shrewd buyer. His business associates say he pays the rock bottom price for everything that goes into his factory.

"Old J. J.," as he is called, is a frequent buyer of machine tools. Most machinery salesmen enter his office with fear and trembling because they know they are going to be grilled on costs. They know J. J. scoffs at quotations because he thinks they are based on guesswork. A stickler for knowing production and distribution costs to the fraction of a cent in his own business, he has the greatest contempt for manufacturers who can't convince him of the soundness of their cost methods. He is a suspicious of the entire marketing system.

It's Different With Automobiles

But when J. J. buys a new automobile as he does about every two years, he doesn't seem to pay much attention to the cost. Nor does he heckle the salesman with pointed questions as to how the selling price of the car is determined. As a matter of fact, he doesn't care how the selling price is fixed.

Why this different attitude? Why does John Jones, and most other buyers as well, have suspicions of machine tool quotations and have full faith in motor car prices?

The answer lies in the psychological reaction of buyers to the different selling methods employed. A prospective buyer of a machine tool may find a base price for a given machine listed in the builder's catalog, but when he asks for a quotation there are so many additions, subtractions and adjustments that the final quotation bears little or no tangible relation to the original list price. As a result the buyer wonders if he is getting a fair price. He wonders if he is being asked more than his competitor would be asked for the same machine. He is not convinced that all customers pay the same price.

But when he buys an automobile, he knows before hand about what the price will be. He has read the factory price in advertisements in dozens f papers. He knows that the cost to him is the factory price plus freight to destination plus any extras he may want. Sometimes the dealer's local advertising gives the final delivered price, so that there is no uncertainty as to what is being paid for the car by all buyers.

What would happen if a tool builder should come out with an advertisement stating that a lathe is available in a certain model with standard equipment at a definite price, f.o.b. factory—with no confusing discounts, rebates, adjustments or other real or mysterious price factors? Would it inspire confidence among machinery users who now are suspicious? Would it place machinery marketing on a higher standard? Would it pave the way for more intelligent distributing methods in the machine industry?

It is not likely this method of quoting would make much difference, at least not until the entire fabric of the tool distribution system of the country is remodeled. Anyway, it would be futile to try it until the tool building industry as a whole knows more about costs than it does at the present time.

The necessity of knowing costs has been emphasized so much that it is almost a waste of time to mention the subject, yet hardly a day goes by that someone does not cite an instance where faulty cost information has caused serious trouble.

Cost Knowledge Wins Confidence

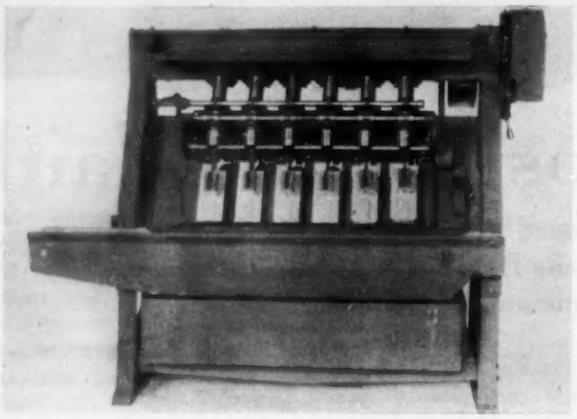
One thing, however, is certain. The machine tool builders could, if they would establish a reputation for knowing their costs that would lift the industry to the top of a pedestal in the minds of many users of machinery. What a compliment it would be if users would get in the habit of saying, "Well the price of the X. & Y. shaper seems high but the X. & Y. people know their costs and we're willing to take their word for them."

When such confidence is won, and when certain of the present tricks of marketing are eliminated so that every detail of a machine tool transaction is open to the light of day, then the tool industry will enjoy a degree

Machine Threads Bolts with Speed

No. 1

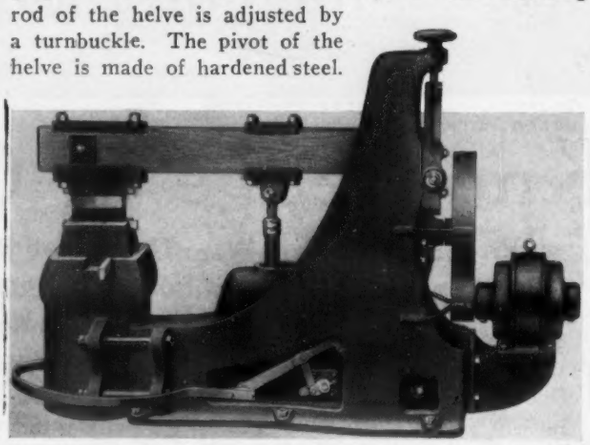
The Holmes Engineering Co., Oshkosh, Wis., announces the design of a 6-spindle bolt threader for the rapid threading of bolts up to ⅝-inch diameter and 1 to 2 inches long. Only bolts having square, hexagon or clipped heads, or square or oval shanks can be threaded. The operator loads and knocks out the bolts, but all other operations are automatic, including conveying the bolts into skip boxes. The six tilted spindles are placed at an angle of 30 degrees from the vertical to permit the use of self-clamping slots, to provide ample lubrication, to permit free washing away of chips and to facilitate ejection of the threaded bolts into the conveyor. Sixty quarts of cutting lubricant flow through the hollow spindles each minute.



Helve Hammer Utilizes Air Cushion

No. 3

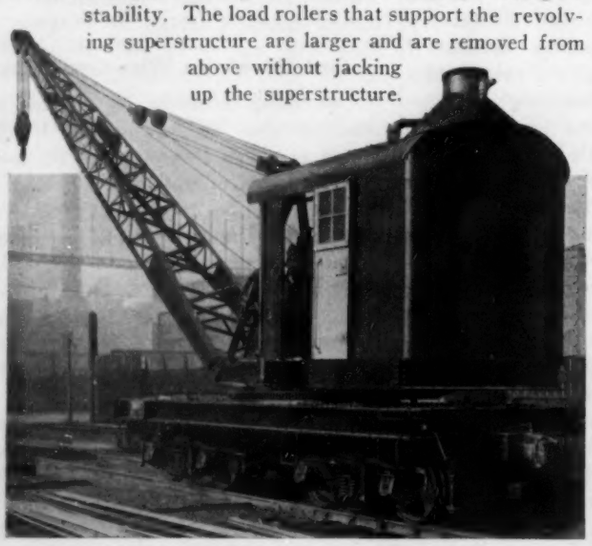
Beaudry Co., Inc., Everett, Mass., has developed an air-cushioned helve hammer which consists of a semi-enclosed frame upon the rear of which is an adjustable yoke supporting the helve at its pivoted end. Within the frame is the air compressor cast in one piece with the helve actuating cylinder, the piston of which connects with the helve. A treadle operated rotary valve controls the blow, which is regulated by the pressure applied. The lightest tap or the heaviest blow can be delivered at full speed. The helve is designed for belt or motor drive. When adjusting the dies for different thicknesses of work, four nuts are loosened on the pivot yoke and the hand wheel on the top of the machine is turned the proper amount to raise or lower the yoke. The connecting rod of the helve is adjusted by a turnbuckle. The pivot of the helve is made of hardened steel.



Improves Locomotive Crane Design

No. 2

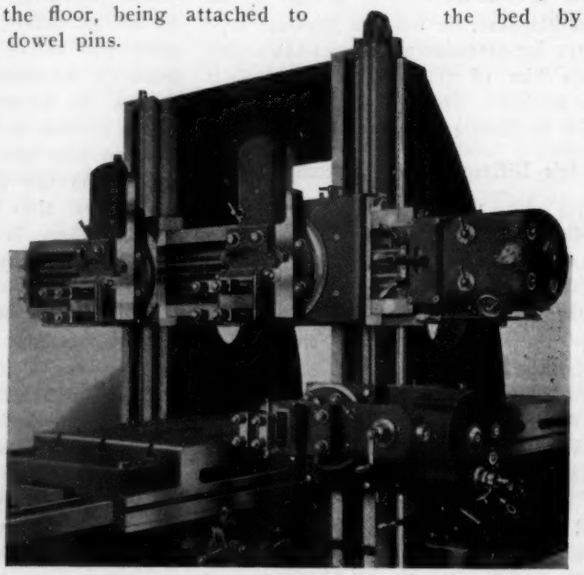
The Brown Hoisting Machinery Co., Cleveland, announces an improved model of its 20-ton locomotive crane, the most notable changes including the high boom hitch, a wide truck frame, a larger diameter rotating ring and a new cab contour. The crab has been simplified by the elimination of one shaft, making the remaining parts more accessible. The specially constructed wide truck frame with a center sill running the entire length and to which are fastened the friction-type draft gearings, permits the use of a larger rotating ring, thus materially adding to stability. The load rollers that support the revolving superstructure are larger and are removed from above without jacking up the superstructure.



New Planer Has Centralized Controls

No. 4

The Liberty Machine Tool Co., Hamilton, O., has designed a planer, the crossrail of which is a self-contained unit carrying all the mechanism necessary for power rapid traverse of heads vertically and horizontally as well as elevating or lowering the crossrail. Unclamping, elevating, lowering and reclamping of the rail, in addition to power rapid traversing of heads vertically and horizontally, are accomplished by one lever. Housings are of extreme width and rigidity and extend entirely to the floor, being attached to the bed by dowel pins.



of prosperity such as it has not known for many years.

* * *

SEVERAL interesting refinements appear in machine tools announced in this issue. Most striking is the treatment of the motor in the new milling machine developed by the Kearney & Trecker Corp. and described as No. 9.

Realizing that the trend is more and more in the direction of individual motor drive, the designers of this milling machine decided to provide the motor drive but at the same time place the motor where it would be out of the way. Therefore they utilized the space in the lower part of the column, placing the motor out of the way, protecting it from dust and dirt and providing a quieter, more compact and more economical installation.

Drive Is Through Gearing

The geared drive is retained in this machine, no chains or belts being used. The driving pinion, mounted on the armature shaft, meshes direct with the driving gear leading up through the gear train in the column. The motor is placed with the driving pinion toward the front of the machine. In this position the brushes and commutator can be reached by merely removing the hinged cover at the rear of the column. The entire motor can be quickly slid out of its housing if any adjustments or repairs are required. Lubrication of the motor bearings may be taken care of from the outside of the machine. Motor ventilation is obtained by louvers in the frame.

A newly designed friction clutch is used on this machine and a new "built-in" power rapid traverse has been provided to the table.

The new planer built by the Liberty Machine Tool Co. and described as No. 4 is distinguished by a self-contained crossrail, which carries all the mechanism necessary for power rapid traverse of heads vertically and horizontally as well as elevating or lowering the cross rail. The unclamping, elevating, lowering and reclamping of the rail, as well as the power rapid traversing of heads vertically and horizontally are accomplished by manipulating a single lever.

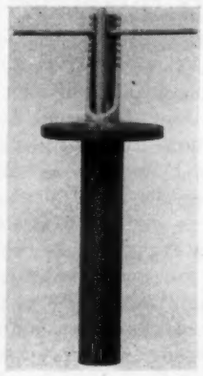
The two-way horizontal cam feed boring and drilling machine developed by Bakers Bros., Inc., and described as No. 12 consists essentially of two opposed units with a center section between them. This middle section can be varied according to special needs. The cycle of operations is to start the machine by a belt shifter or a push button, afterwhich the tool spindles quickly advance to the work, perform the desired operations at the correct feed, automatically withdraw rapidly and stop automatically at the end of the cycle. The cam feed actuating the movement of the spindles permits facing to an exact depth and the ability to change cams easily gives the machine a wide range of usefulness.

Grinding Machine Is Combination

In the grinder shown as No. 10, the Gardner Machine Co. has virtually combined a surface grinder and a disk grinder. While it primarily is considered a surface grinder it can be used to advantage in shops where the volume of surface and disk work is not sufficient to justify a machine for each. The outstanding feature of the grinder is the hydraulic feed which imparts longitudinal travel to the surface table. The control of this hydraulic feed is flexible and is manipulated by a hand lever at the front of the machine.

Assisted by another company, the Holmes Engineering Co. has developed a six spindle bolt cutter having several unusual characteristics. The operator loads and knocks out the bolts, but all other operations are automatic including conveying the bolts into skip boxes. The spindles are tilted at

Designs Welding Electrode Holder



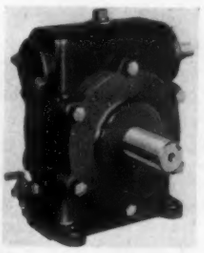
No. 5

The General Electric Co., Schenectady, N. Y., has designed a welding electrode holder which permits quick changing from burnt stub to new electrode. It consists of a punched fiber tube with a tinned brass plug in the end. A steel spring rod holds the electrode in place against the properly sized notch. The welding cable is soldered to the lower end of the holder by removing the fiber tube.

Gear Reduction Units Standardized

No. 7

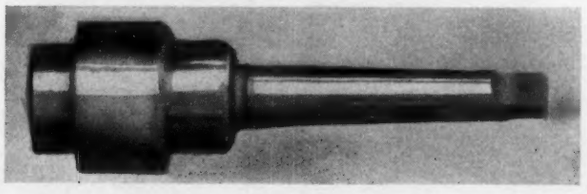
The Cleveland Worm & Gear Co., Cleveland, has designed a standardized worm gear reduction unit for continuously transmitting loads up to 3 horsepower. It is available in standardized ratios of 5 to 1, 10 to 1, 15 to 1, 20 to 1, 25 to 1 and 30 to 1. The housing is of the square type for both compactness and strength. The unit is adaptable for any application where a fully enclosed, self-oiling unit is desired. Compactness is a feature of its design. The unit also can be used as a speed booster.



Chuck Permits Quick Tool Change

No. 6

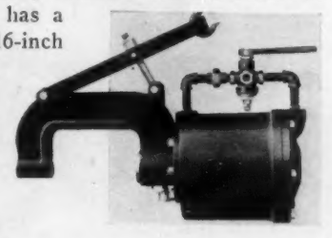
William L. Procunier, 18 South Clinton street, Chicago, has developed a double-jaw quick change chuck. When the sleeve or collar is lifted, two balls are allowed to slide out of the pocket of the collet, thereby causing the collet to drop out. To change tools it is unnecessary to stop the machine or to remove work from alignment.



Hot or Cold Rivets Driven by Press

No. 8

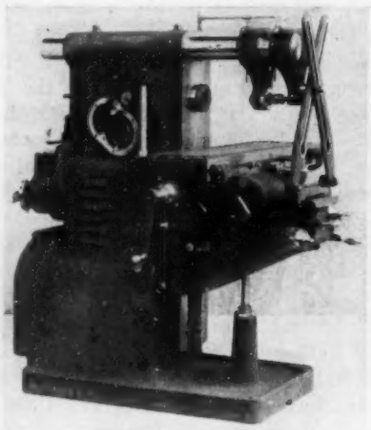
The Hanna Engineering Works, Chicago, has brought out a straight acting pneumatic press which has a reach of 4 inches and a gap of 6 inches. The cylinder is 12¼ inches diameter and is capable of exerting 5 tons on the dies at 100 pounds per square inch air pressure. The die stroke is 2 inches. The machine has a capacity for driving 3/16-inch cold rivets and ¼-inch hot rivets. The total weight of the riveter is 225 pounds. The unit has use for riveting dust disks to rear axle assemblies for automobiles.



Motor Is Concealed in Miller Base

No. 9

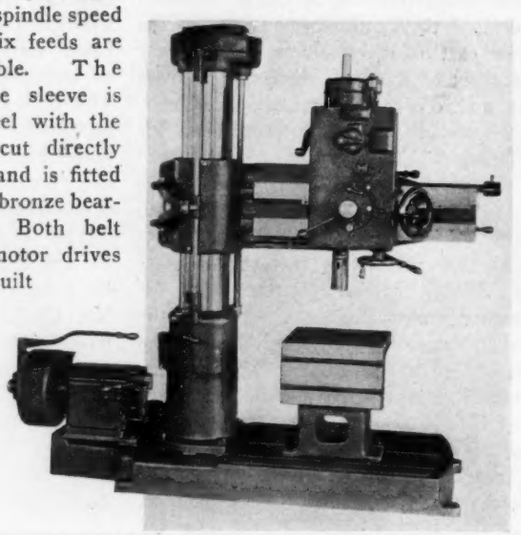
The Kearney & Trecker Corp., Milwaukee, recently has placed on the market a new model of direct-drive milling machine, an important feature of which is that the driving motor is located in the base of the machine. In addition to conserving floor space, this construction protects the motor from dirt and dust, leaves fewer corners where dirt may accumulate and gives a more quiet installation. The driving pinion mounted on the armature shaft meshes with the driving gear leading up through the gear train in the column. The motor is placed with the driving pinion toward the front of the machine and in this position the brushes and commutator can be reached by removing the hinged cover at the rear of the column. Ample motor ventilation is obtained by suitable placed louvers. Two other refinements have been added to the machine. The drive is through a friction clutch with the control lever extended and brought out to the front of the machine. The other improvement is a built-in power rapid traverse for operating the table.



Radial Drills Are Well Lubricated

No. 11

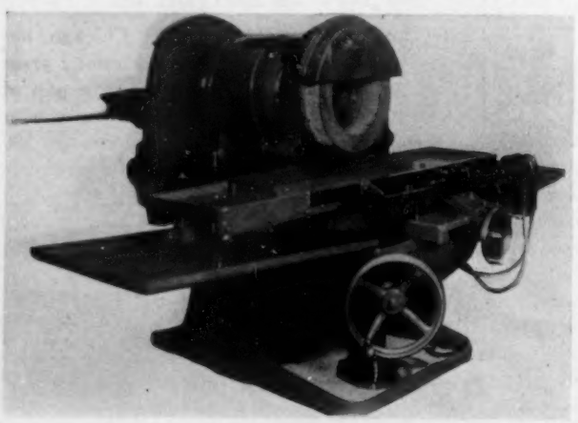
The Morris Machine Tool Co., Cincinnati, recently has introduced a line of radial drills comprising two high speed and one heavy duty model. The high speed radials have a maximum spindle speed of 900 revolutions per minute and the heavy duty a maximum speed of 650 revolutions. These tools have all-ball bearing speed boxes, spindle gears mounted on ball bearings and helical spindle gears. The tapping attachment runs in oil with multiple disk friction clutches adjustable from the outside. Oil reservoirs are provided in the head, back bracket and column cap. Eighteen spindle speed and six feeds are available. The spindle sleeve is of steel with the rack cut directly in it and is fitted with bronze bearings. Both belt and motor drives are built



Surface and Disk Grinder Combined

No. 10

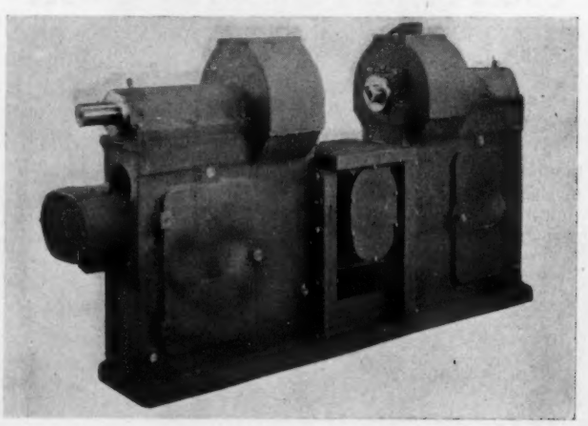
The Gardner Machine Co., Beloit, Wis., has placed on the market a grinding machine which is a combination of a surface grinder and a disk grinder. The right-hand end is adapted to large work where heavy cuts are required and is useful for many long parts which could not be handled satisfactorily on a disk grinder. The left-hand end of the machine, however, is regularly equipped with a steel disk wheel and universal lever feed table and is adapted to all work usually done on the single end disk grinder. One of the feature of this machine is the oil gear hydraulic feed used in effecting the longitudinal travel of the surface table, a device which gives flexibility of control and a regulation of the rate of table travel. The oil reservoir is built into the pump.



Boring Machine Widely Adaptable

No. 12

Baker Bros. Inc., Toledo, O., has placed on the market a horizontal, cam-feed, two-way boring and drilling machine, a feature of which is that the center section is made special, depending upon the work to be performed. When the machine is started either by a starting lever or a bush button control, the spindles carrying the tools advance quickly to the work, the operation is performed at the correct feed, the spindles withdraw automatically and the machine comes to a stop with the cycle completed. The spindles are actuated by flat cams and are timed to each other to meet requirements of operations. For multiple operations, a slightly different head design is available. The machine is furnished for belt or motor drive. Speeds can be changed by changing gears.



an angle of 30 degrees from the vertical to permit the use of self-clamping slots, to assist in lubrication and to allow chips to be washed away more easily.

Germany Is Striving To Compete with World

(*Concluded from Page* 162)

partly, do without the Lorraine raw material. According to a certain conservative opinion in Essen, Germany could do without Lorraine steel; they claim that the Lorraine output is a surplus which France cannot absorb and that she is obliged to find an outlet for this steel in the world markets. However, this is a matter of controversy and the more moderate opinion in Germany would tend to an arrangement with France for the regular purchase of, say 1,000,000 tons a year of Lorraine semifinished products, providing that France granted certain advantages with regard to the entry of German manufactured products in her territory. According to reliable reports, this is one of the points under discussion in the commercial negotiations which are taking place between France and Germany.

The French are anxious to obtain a permanent outlet for their Lorraine production and part of this output, at least, would be absorbed by a majority of German mills. The heavy purchases of French and Belgian steel in November and December by mills in southern Germany who feared the increase of the German tariff which may become effective soon, strengthens this assumption. Incidentally, France's domestic requirements are about sufficient to absorb from 50 to 60 per cent of her capacity of production. The balance will have to be exported.

During the latter part of 1924 German competition was greatly feared by other European steel producing countries. It was believed that the re-establishment of Germany's economic unity brought about by the Dawes plan would increase Germany's capacity of exporting to a dangerous extent. The shadow of German competition has become a bogie. It is true that at certain intervals German iron and steel products have been thrown on outside markets at low prices. But these products generally were sold from merchants' stocks and it may be safely asumed that the German producers exported at a loss and that such business conducted on a large scale would have lead to ruin. These sporadic export sales were made to obtain cash which was badly needed when banks restricted credits.

Societies News

THE sixth sectional meeting of the American Society for Steel Treating will be held at Hotel Sinton, Cincinnati, Jan. 15 to 16. Thursday will be devoted to two technical sessions, one in the morning and one in the afternoon, and an informal dinner meeting in the evening. Friday will be spent in visiting plants in Cincinnati and vicinity. Papers to be presented at the meeting are as follows:

"Sample Preparation for High Power Photomicrography," by R. G. Guthrie, metallurgist, industrial gas department, Peoples Gas Light & Coke Co., Chicago.

"High Tensile Strengths with Low Carbon Steels," by R. H. Smith, vice president, Lamson & Sessions Co., Kent, O.

"Wear and Wear Testing," by G. W. Quick and S. J. Rosenberg, bureau of standards, Washington.

"Gearing as a Medium for Industrial Power Transmission," by O. N. Stone, assistant chief engineer, Van Dorn & Dutton Co., Cleveland.

"Corrosion Resisting Steels of the Iron-Carbon-Chromium and the Iron-Carbon-Chromium-Silicon Series," by T. Holland Nelson, metallurgist, United Alloy Steel Corp., Canton, O.

* * *

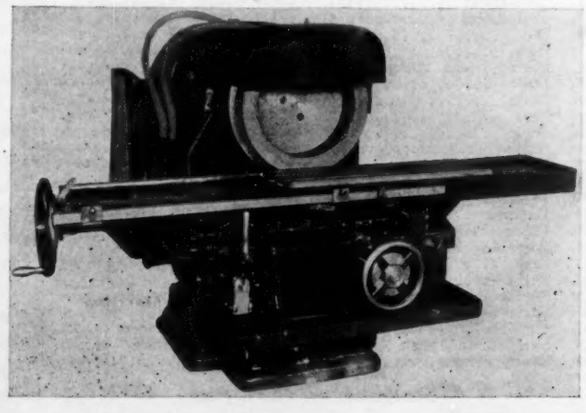
Discusses High Speed Steel

C. R. Pafenbach, metallurgist of Lockport, N. Y., recently addressed a joint meeting of the Worcester, Mass., section of the American Society of Mechanical Engineers and the Worcester chapter of the American Society for Steel Treating. "High Speed Steel" was the title of the paper presented.

Surface Grinder Does Wet Grinding

No. 13

The Badger Tool Co., Beloit, Wis., has introduced a flat surface grinder with special work table combinations and arranged for wet grinding. The left-hand end of the machine is fitted with a new power operated face grinding table 73 inches long and 13 inches wide and having a finished working top of 32 x 10 inches. It has a longitudinal travel of 34 inches and an in-feed of 5 inches. The table is driven through a nut and screw although hand operation can be used if desired. The right-hand end of the machine is equipped with the regular lever feed work table of the oscillating type and is enclosed by water guards. The machine carries two 20-inch diameter abrasive ring wheels. When used for wet grinding, the machine is equipped with water guards, pans, nozzles, pump and tank.



Meter Registers Coal Consumption

No. 14

The Republic Flow Meters Co., Chicago, has placed on the market a device for measuring the amount of coal fed into a furnace. Operation of the instrument depends on the automatic recording of the product of the cross sectional area and the velocity of the layer of coal passing into the furnace, the meter therefore registering the volume of the coal burned. The device is attached to the grate driving mechanism and has a proportionate rate of travel.

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50.	Die	4/3
117.	Disk	6/5
10.	Surface and disk	1/8
14.	Drill	2/7
218.	Drill	11/6
1.	Gear	2/7
30.	Face	3/6
143.	Floor	7/3
77.	Hob	5/1
111.	Internal	6/5
180.	Internal	9/4
146.	Lapping	8/7
200.	Plunge cut	11/6
115.	Portable	6/5
241.	Roll	12/4
13.	Surface	1/8
25.	Surface	3/6
47.	Surface	4/3
222.	Surface	12/4
10.	Surface and disk	1/8
56.	Swing frame	4/3
104.	Swing frame	6/5
36.	Tool	3/6
89.	Tool	5/1
226.	Tool	12/4
126.	Tool room	7/3
54.	Tool, universal	4/3
73.	Universal	5/1
Hobbers		
13.	Gear	2/7
70.	Spline, 8 spindle	4/3
Lathes and Automatics		
99.	Automatic lathe	6/5
125.	Automatic	7/3
149.	Bench set	8/7
42.	Bar machine	3/6
1.	Bolt threader	1/8
237.	Centering machine	12/4
128.	Chucking	7/3
93.	Chucking, 4 spindle	6/5
118.	Engine	7/3
38.	Geared head	3/6
190.	Hollow spindle	10/2
124.	Production	7/3
4.	Screw machine	2/7
236.	Threading	12/4
189.	Turret	10/2
233.	Turret	12/4
94.	13-inch	6/5
Marking Machine		
24.	Dial marker	3/6
Material Handling Equipment		
57.	Chain hoist	4/3
127.	Crane	7/3
131.	Crane	7/3
65.	Elevator	4/3
26.	Hoist	3/6
137.	Hoist	7/3
164.	Hoist	8/7
206.	Hoist	11/6
229.	Hoist	12/4
2.	Locomotive crane	1/8
55.	Tractor	4/3
109.	Trailer	6/5
141	Trolley	7/3
5.	Truck	2/7
6	Truck	2/7
17.	Truck	2/7
120.	Truck	7/3
232.	Truck, elevator	12/4
Milling Machines		
110.	Column facer	6/5
9.	Direct drive	1/8
52.	Hand	4/3

(Continued on Next Page)

Machine Tools Introduced in 1924 (by Products)

(Concluded from Preceding Page)

No.		Issue
145.	Hand	8/7
157.—	Planer attachment	8/7
108.	Production	6/5
10.	Slab	2/7
33.	Universal	3/6
105.	Thread	6/5
167.	Thread hobber	9/4
	Pipe Machinery	
3.	Threader and cutter	2/7
64.	Threader and cutter	4/3
140.	Threader	7/3
	Planers	
84.	120-inch	5/1
4.	Self-contained	1/8
	Presses, Brakes, Etc.	
150.	Arbor and bushing	8/7
59.	Baler, scrap	4/3
185.	Bending machine	10/2
130.	Bending press	7/3
129.	Bending rolls,	7/3
133.	Blanking and edging press	7/3
74.	Brake, sheet metal	5/1
148.	Bushing	8/7
213.	Chip crusher	11/6
18.	Hinge brake	2/7
8.	Pneumatic riveting	1/8
121.	Press for ax heads	7/3
21.	Straightener	2/7
41.	Straightener	3/6
48.	Straightener	4/3
88.	Straightener, wheel	5/1
46.	Trimming	4/3
199.	Vertical press	11/6
	Punches, Shears and Riveters	
208.	Angle iron notcher	11/6
216.	Column riveter	11/6
32.	Hydraulic riveter	3/6
123.	Punch and bar cutter	7/3
85.	Punch and shear	5/1
113.	Punch and shear	6/5
176.	Punch and shear	9/4
240.	Punch and shear	12/4
134.	Punch	7/3
86.	Punch, multiple	5/1
100.	Riveting device	6/5
184.	Riveting machine	10/2
134.	Shears	7/3
234.	Structural riveter	12/4
22.	Suspension device	3/6
	Saws	
106.	Band	6/5
175.	Band saw brazer	9/4
132.	Band, metal	7/3
188.	Cold metal	10/2
217.	Electric hand saw	11/6
2.	Friction saw	2/7
220.	Hot saw and burring machine	11/6
	Shapers	
95.	Tool room	6/5
119.	Heavy duty	7/3
177.	Vertical, 6-inch	9/4
	Slotters	
116.	Planer type	6/5
	Small Tools	
192.	Die-head	10/2
16.	Gage, dial	2/7
28.	Gage, dial	3/6
79.	Level, precision	5/1
44.	Parallels	3/6
6.	Quick change chuck	1/8
80.	Reamer, expanding	5/1
103.	Tap, rotary	6/5
29.	Taps	3/6
12.	Vise	2/7
195.	Vise, drill press	10/2
142.	Wrench	7/3
7.	Wrench, pipe	2/7
	Welding Equipment	
107.	Arc welder	6/5
160.	Arc welder	8/7
170.	Arc welding generator	9/4
194.	Cutting torch	10/2
67.	Cutting torch tip	4/3
39.	Electric welder	3/6
138.	Electrode	7/3
5.	Electrode holder	1/8
20.	Electrode holder	2/7
230.	Gas regulator	12/4
154.	Oxygen manifold	8/7
152.	Rheostat	8/7
40.	Welding torch	3/6
	Miscellaneous	
92.	Air compressor	6/5
122.	Air compressor	7/3
187.	Air compressor	10/2
227.	Air compressor	12/4
231.	Air meter	12/4
203.	Bearing, lineshaft	11/6
196.	Belt carrier	10/2
147.	Bolt thread cutter	8/7
171.	Bucket, charging	9/4
181.	Cab for steal shovel	9/4
239.	Carbon dioxide indicator	12/4
210.	Cleaner for carburizing compound	11/6
14.	Coal meter	1/8
186.	Compensator, voltage	10/2
205.	Controller, electric	11/6
162.	Cooling fan	8/7
209.	Core tester	11/6
51.	Coupling, flexible	4/3
191.	Coupling, flexible	10/2
221.	Coupling, flexible	11/6
159.	Cut-off machine	8/7
173.	Drill stand	9/4
202.	Fan, exhaust	11/6
43.	Flow meter	3/6
139.	Flow meter	7/3
19.	Forge	2/7
101.	Forging furnace	6/5
169.	Forging machines	9/4
72.	Furnace, aluminum	5/1
163.	Furnace, heat treating	8/7
58.	Gate valve	4/3
7.	Gear reducer	1/8
211.	Gear tester	11/6
155.	Grinder shield	8/7
182.	Hammer, chipping	9/4
207.	Hammer, chipping	11/6
3.	Hammer, helve	1/8
178.	Hammer, helve	9/4
224.	Hammer, power	12/4
183.	Heating machine	10/2
172.	Lamp bulb lock	9/4
15.	Lamp guard	2/7
156.	Magnetic separator	8/7
31.	Melting pot	3/6
82.	Microscope attachment	5/1
27.	Molding machine	3/6
112.	Molding machine	6/5
179.	Molding press	9/4
219.	Motor actuator	11/6
114.	Motor bearing	6/5
11.	Motor mounting	2/7
96.	Motor starter	6/5
61.	Motors, induction	4/3
37.	Oil separator	3/6
225.	Oiler, sheet steel	12/4
8.	Periscope	2/7
238.	Pump, centrifugal	12/4
228.	Pyrometer	12/4
87.	Reflector, lamp	5/1
97.	Resistance grid	6/5
68.	Roller leveler	4/3
201.	Sand aerator	11/6
75.	Sandblast unit	5/1
76.	Sand mixer	5/1
174.	Sander, spindle	9/4
204.	Screw driver, electric	11/6
153.	Speed transformer	8/7
49.	Spray gun	4/3
91.	Stair tread	5/1
151.	Stair tread	8/7
214.	Table for hardness testing	11/6
193.	Temperature controller	10/2
212.	Trap, steam	11/6
98.	Vacuum pump	6/5
69.	Vibrating screen	4/3
165.	Worm box	8/7
215.	X-ray apparatus, portable	11/6

Coke-Oven Accident Rate Reduced in 1923

Accident reports for 1923 show that the rate in the coke industry of the United States was lower than any other year since 1913, except 1915 and 1922. The bureau of mines began compiling statistics in 1913. In its report for 1923, the bureau states that the reduction in the accident rate was confined to accidents of a nonfatal character, as the fatality rate was slightly higher than in 1922 and 1921. The accident rate for 1923, based on 1000 full-time, or 300-day, workers, was 102.94, or which 1.76 represented the fatalities and 101.18 the nonfatal injuries. The fatality and injury rates for the year 1922 were 1.59 and 93.77, respectively, and those for the 5-year period 1916-1920 averaged 1.81 and 167.03. The rates for 1923 as compared with those for the 5-year period represent a reduction of 3 per cent in the fatality rate and 39 per cent in the injury rate.

According to the reports received from operating companies, 23,729 men were employed in the manufacture of coke in 1923, a larger number than was employed either in 1921 or 1922. The number of shifts worked by all employes, 7,688,160, likewise was larger than in those two years. The average days worked per employe, 324, has not been equaled since 1918, when the average was 329; the average for the five-year, 1916-1920 was 319. Accidents at the ovens, both beehive and by-product, killed 45 employes and injured 2593, each injured employe being disabled for at least one day.

In the number of men employed at coke ovens, the leading states were Pennsylvania with 8101, Indiana 2394, Ohio 2124, Alabama 1725, Illinois 1566, West Virginia 1073, New York 1056, and Michigan 1043.

Steel Roads Are United

Washington, Jan. 6.—Application of the Monongahela Connecting railroad to acquire control of the Eastern railroad by purchase of its capital stock has been approved by the interstate commerce commission. Both roads are subsidiaries of the Jones & Laughlin Steel Corp. and it is the purpose of the Monongahela Connecting to consolidate the properties to avoid the expense of separate organizations.

The Monongahela Connecting road was chartered in 1885 and the Eastern was chartered in 1901

This acquisition, according to the report of the commission, marks the end of a project the Jones & Laughlin interests had for building a line of railroad from Pittsburgh to Lake Erie, which would have been a competitor in the ore and steel carrying trade with the Pittsburgh & Lake Erie, the Bessemer & Lake Erie, and the longer lines.

Shippers Oppose Rates

Chicago, Jan. 6.—Shippers affected by the proposed increase in railroad class rates between Illinois and Indiana points on the one hand and the Twin Cities on the other have been called to a meeting at the Hotel La Salle, Jan. 9, to consider opposing the new tariffs, which are effective Jan. 31. Suspension of the tariffs doubtless will be asked. Increases from the same points of origin to Missouri river points are looked for.

The Pressed Steel Car Co., McKees Rocks, Pa., has completed an arrangement for insurance for employes. The total now amounts to about $3,600,000 on more than 3600 employes.

Men of Industry

Personal News of a Business Character Pertaining to the Iron and Steel and Related Fields of Enterprise

CLINTON S. BRADLEY, formerly manager of sales in the hot rolled department of the Jones & Laughlin Steel Corp., Pittsburgh, has been made general manager of sales, effective Jan. 1. Mr. Bradley went to Pittsburgh as sales manager in the hot rolled department in October, 1923, for 16 years preceding that time having been Buffalo district manager for the Jones & Laughlin corporation. Mr. Bradley was born in Omaha, Nebr., and received his primary schooling in Akron, O. His first business connection in the iron and steel industry was with the Akron Iron Co. with which organization he remained until 1897 when he joined the Whitman & Barnes Mfg. Co., as special New England representative. Two years later, Mr. Bradley went to Chicago as vice president in charge of sales for the Sterion Copper Co., brass founder, from which company he resigned to assume his connections with the Jones & Laughlin corporation.

Other changes announced by S. E. Hackett, vice president in charge of sales of the Jones & Laughlin Steel Corp., are as follows:

R. T. Rowles, formerly district sales manager at Philadelphia, has been promoted to succeed Mr. Bradley as manager of the hot rolled department sales at Pittsburgh;

T. C. Ham, formerly assistant manager, export department at New York, has been transferred to Philadelphia as district sales manager;

William P. Dixon, formerly in the export department at Pittsburgh, has been made assistant manager of the export department at New York;

A. W. Herron, Jr., formerly assistant to vice president S. E. Hackett, has been made district sales manager at Cincinnati;

T. W. Bell, located for some time past in the new Los Angeles office of the company, has been formally appointed district sales manager there;

George D. Branston, in charge of railroad sales at Pittsburgh, has been formally appointed manager of sales of railroad materials there.

* * *

E. C. Morse has resigned as general manager of Wills, Sainte Claire, Inc., Marysville, Mich.

* * *

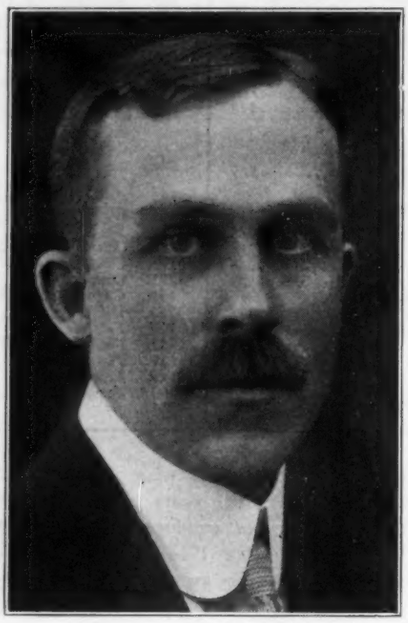
Arthur L. Greene, recently connected with the Buffalo Bolt Co., Buffalo, N. Y., formerly had been with the Buffalo Forge Co., that city.

* * *

Hans Thyssen, nephew of August Thyssen, the German steelmaster, has returned to Germany after a visit of seven weeks in the United States.

* * *

Daniel O'Rourke, who joined the Sullivan Machinery Co., Chicago, recently,



CLINTON S. BRADLEY

formerly had been in charge of the Moffat tunnel, Colorado.

* * *

W. P. Leshure who recently became general manager of the Leshure Co., 55 Governor street, Springfield, Mass., had been president of the Hampden Grinding Wheel Co.

* * *

William P. Cheney has resigned as manager of the coke department, Pittsburgh office, of Rogers, Brown & Co., where he has been for the past 20 years. No successor will be appointed for the present.

* * *

C. A. Ablett has been appointed managing director of the Cooper Roller Bearings Co., Kings Lynn, England, in addition to being managing director of the Unbreakable Pulley & Millgearing Co., Ltd., Manchester.

* * *

George E. Carlin, Hammond, Ind., formerly with the Champion Corp. and the United Boiler Heating & Foundry Co., both of Hammond, has been made general superintendent of the Globe Malleable Iron & Steel Co., Syracuse, N. Y.

* * *

Charles K. Seymour, recently elected secretary of Niles-Bement Pond Co., New York, has been connected with that organization for 23 years, lately as assistant sales manager. He succeeds Charles D. Guthrie.

* * *

F. Gripe, for 10 years purchasing agent for the E-Z-est Way Stove Works, a subsidiary of Sears, Roebuck & Co., Chicago, has resigned, effective Jan. 1, and entered the selling field under the name of the National Mill Products Co., Chicago.

* * *

H. B. Pearson Jr., has resigned as assistant general superintendent of W. J. Rainey, Inc., and will be located in New York where he will be associated in the engineering business with L. L. Willard, formerly representative at Pittsburgh for the Rainey interests. John McIlwain, vice president in charge of sales, has also severed his connection with the Rainey company, it is announced.

* * *

Irvin E. McGowan has been made metallurgist and chief chemist for the Sparta Foundry Co., Sparta, Mich., manufacturer of individually cast piston rings. Mr. McGowan has been engaged in metallurgical work for the past 17 years, ten of which were spent in the blast furnace industry.

* * *

Francis C. Pratt recently appointed vice president in charge of manufacturing for the General Electric Co, Schenectady, N. Y., to fill the vacancy caused in the resignation of George E. Emmons, formerly was vice president in charge of engineering. Mr. Pratt will be chairman of the manufacturing committee. He was born in Hartford, Conn., Jan. 19, 1867, and was graduated in 1888 from Sheffield Scientific school of Yale university. He entered the organization of Pratt & Whitney Co. at Hartford, of which his father was vice president. After advancing to the vice presidency he left that organization in 1906 to become associated with the General Electric Co. In 1912 he was appointed assistant to the president and in 1919 was made vice president in charge of engineering.

Here and There in Industry

Live Information Which Records the Expansion of Various Lines of Productive Enterprise

LACLEDE STEEL CO., St. Louis, has announced today the sale and transfer of its forging plant at East St. Louis, Ill., effective Jan. 2, to a new company to be known as the St. Louis Forgings Co., a subsidiary of the Standard Forgings Co., Chicago, with the same general officers as the latter company. The production of car and locomotive axles and forgings, and the operation of the plant generally under the new ownership will be continued as heretofore. The St. Louis Forgings Co. opened an office Jan. 2 at 521 Security building, St. Louis. The general offices of the company will be in the Railway Exchange building, Chicago.

* * *

THE new foundry of Patch Bros., Streator, Ill., was opened for business Jan. 1. R. V. Patch and S. J. Patch are proprietors. Gray iron jobbing castings will be made.

* * *

WHEELDON WIRE CO., one of several wire companies in Massachusetts organized by former members of the Wickwire Spencer Steel Co., is building a plant addition 28 x 128 feet. The company now is working overtime and reports a large volume of orders.

* * *

McCLINTIC-MARSHALL CO. of California has been incorporated with a capital stock of $500,000 at Los Angeles. The parent company is McClintic-Marshall Co. with headquarters in Pittsburgh. One of the largest fabricating shops on the Pacific coast will be built by the California company in Los Angeles. Contracts have been placed already for much of the new equipment, the property has been purchased and the steel for the new building now is being fabricated in the shops of the eastern company.

* * *

THE Cleveland Cliffs Iron Co., Cleveland, has purchased the coal docks of the Chicago, Milwaukee & St. Paul railroad, at Escanaba, Mich., which for years were operated by the former Central Coal Co. of Milwaukee, of which E. J. Erling was president. The purchaser plans to supply its mines with coal and also enter the wholesale coal trade. The dock has a capacity of 100,000 tons. It has been idle much of the time for several years and is to be rebuilt, with modern electrical coal handling equipment to be installed.

* * *

ALABAMA LIMESTONE CORP., Birmingham, Ala., capitalized at $2,000,000, has taken over the O'Neill Lime Co., and its extensive limestone properties in Shelby county, 30 miles south of Birmingham. An immense plant for the manufacture of lime and by-products of lime will be built at once. The plant will be modern in every particular. Its holdings are said to contain limestone which would last a century even at 24-hour a day operations. This will be the largest plant of the kind in the South and will be completed within six months.

* * *

PLANS for the immediate establishment of a large plant to manufacture farm implements and do a general foundry and machine shop business, and to be located in suburban Atlanta, have been announced by J. T. Rose, well known Atlanta manufacturer, elected to the presidency recently of the Atlanta Industrial Corp., which is to establish the plant. The company has acquired the properties of the defunct Oliver Rim Co., valued at about $250,000, which it will enlarge and improve. It is announced also that A. J. Yaretsky, for some years associated with the Atlanta Foundry & Machine Co., will be general manager of the Atlanta Industrial Corp.

* * *

TO PROPERLY provide for its increase of business the Hughes Tool Co., Houston, Tex., has amended its charter, increasing its capital stock from $300,000 to $2,000,000. The company manufactures oil well tools and supplies. Following the increasing of its capital stock came the announcement of a $1,700,000 stock dividend, effective immediately. Howard R. Hughes, who inherited the company about a year ago, owns the majority of the stock. The plant of the company was practically doubled in 1923 and material increases were made in 1924. The development program for 1925 includes the operation of a branch plant at Oklahoma City, Okla., now under construction, besides increases in its other activities.

* * *

PERMISSION to construct and maintain a rail and river terminal on the east bank of the Wolf river canal at Memphis, Tenn., at a cost of approximately $200,000, was granted late last week to the Jones & Laughlin Steel Corp., by the United States engineers. Work on the terminal and warehouse is expected to start immediately. A warehouse building for wire products, etc., will be erected on the 8 or 9-acre site formerly occupied by the old navy yard. Steel products to be used on the terminal will be shipped from Pittsburgh to Memphis in barges towed by steamers owned by the corporation. An electric traveling crane will be installed for unloading pipe, etc., from barges to railroad cars.

* * *

ANDERSON ENGINE & FOUNDRY CO., Anderson, Ind., is the new company which recently took over the Anderson Foundry & Machine Co. which had been in receivership. Officers and directors of the new company are E. W. Conney, president and general manager, formerly with the National Forge & Tool Co., Irvine, Pa.; Bert McBride, treasurer, president of the Continental National bank, Indianapolis; directors; F. C. Hesch, vice president, Titusville Forge Co., Titusville, Pa.; I. L. May, president, May Supply Co., Anderson, Ind.; J. E. Greene, president, Matthew Addy Co., Cincinnati; Luther F. Pence, Anderson and Emerson E. McGriff, Portland, Ind. The main product of the new company will be the manufacture of oil engines.

* * *

ELECTRIC generating properties of the Milwaukee Electric Railway & Light Co., Milwaukee, will be enlarged and improved at a cost of $5,400,000 during 1925, according to an announcement by Col. S. B. Way, vice president and general manager. The electric railway properties are in the budget for $3,400,000, and the gas properties for $1,200,000. A. V. Ryder, manager of the Oshkosh, Wis., plant of the Wisconsin Public Service Co., says preparations are being made to add a 5000-kilowatt turbine generator to supplement one 3000-kilowatt, one 1250 kilowatt and one 500 kilowatt units. Other public utilities in Wisconsin also are planning extensive enlargements of their respective capacities and it is figured that expenditures for steam and hydroelectric generating machinery in this state during the new year will be the heaviest in its history.

Steel Imports and Exports Drop

Shipments in November Drop to Lowest Point Since March, 126,877 Tons Being Exported —Receipts Continue Decline and Total 35,720 Tons Compared with 40,877 Tons in October—Iron and Manganese Ores Imports Increase

FOREIGN trade in iron and steel by the United States dropped considerably in November, both imports and exports showing a decline. Shipments in November, totaling 126,877 tons, were the smallest since March when 124,762 tons were sent out of the country, and record a 31,676-ton drop from the exports in October. Imports likewise were smaller totaling 35,720 tons compared with 40,877 tons in October, and 45,216 tons in September. Exports were considerably lower than in the same month of 1923, shipments in November that year being 186,770 tons. Imports in November, 1923, totaled 26,534 tons.

IMPORTS AND EXPORTS
Gross Tons

	1924		1923	
	Imports	Exports	Imports	Exports
Jan.	26,677	251,284	120,080	124,444
Feb.	42,054	168,191	67,707	135,182
March	39,279	124,762	106,206	165,624
April	50,975	132,739	77,909	179,159
May	66,805	168,172	75,891	204,988
June	60,474	172,982	68,019	172,747
July	30,410	138,845	53,448	170,259
Aug.	44,928	136,025	45,432	163,010
Sept.	45,216	135,894	36,612	173,664
Oct.	40,877	158,553	29,884	154,079
Nov.	35,720	126,877	26,534	186,770
Dec.	.....	.....	27,012	179,215
Total	485,004	1,660,636	734,734	2,009,141

Year	Imports	Exports
1922	712,895	2,005,100
1921	135,825	2,150,276
1920	421,274	4,934,087
1919	322,264	4,397,295
1918	169,110	5,338,019
1917	330,201	6,465,053
1916	328,965	6,110,732
1915	282,396	3,532,564
1914	289,775	1,549,554
1913	317,260	2,745,635

An 11-month total indicates a marked decline in both imports and exports in 1924 from levels of 1923. Exports for the first 11 months of 1924 totaled 1,660,636 tons, compared with 2,009,141 tons for the 1923 total and 1,829,926 tons for the first 11 months of that year. Imports for the 11 months of 1924 totaled 485,004 tons, compared with 734,734 tons for the entire year of 1923 and 707,722 tons for the 11-month period.

A general falling off in most of the products on the export list was responsible for the total decline in November shipments. Among those products showing the greatest losses were; steel bars, steel sheets black, fabricated structural shapes, boiler tubes, welded black pipe, welded galvanized pipe, pig iron, barbed wire, miscellaneous wire, bolts, nuts, etc., and miscellaneous iron and steel. Among the few items to show an increase were scrap, hoops, bands and scroll and rails over 50 pounds.

Import lists also recorded a drop in most iron and steel products. The only items registering an increase, and most of these were small, were ferrosilicon, wire rods, tubular products, round iron and steel wire, nails and screws, bolts, nuts and rivets, and flat wire and strip steel. Tubular products continue to be one of the most active items on the import list, receipts jumping from 2996 tons in October to 4796 tons in November. Ferromanganese,

IRON AND STEEL EXPORTS
Gross Tons

	November		Eleven months ended November	
	1924	1923	1924	1923
Pig iron	1,478	3,198	38,934	29,568
Scrap	2,555	6,167	91,676	60,869
Semifinished	414	484	4,605	6,508
Sheet and tin plate bars	2	....	59	648
Steel bars	4,752	12,365	92,439	147,318
Alloy steel bars	366	60	2,556	2,098
Iron bars	323	493	4,839	12,319
Wire rods	1,090	8,004	17,047	34,378
Boiler plate	27	454	3,359	11,432
Other plates, fabricated	4,067	5,347	76,421	96,995
Skelp iron or steel	7,145	7,857	86,125	100,242
Galvanized sheets	11,062	7,791	99,985	107,373
Steel sheets, black	12,434	17,188	141,150	102,463
Iron sheets, black	1,180	780	9,979	13,517
Strip steel	444	520	8,779	10,753
Hoops, bands and scroll	2,058	2,436	22,374	25,551
Tin, terne plate	14,326	14,679	148,430	106,889
Structural shapes, plain	8,283	9,103	94,822	115,984
Structural shapes, fab	1,902	4,158	18,851	32,685
Ship and tank plates	684	197	7,126	2,825
Metal lath	277	214	2,022	1,347
Other structural forms	2,193	4,350	40,107	39,229
Rails over 50 pounds	13,823	23,360	168,344	221,185
Rails under 50 pounds	692	3,540	17,287	24,659
Rail joints, etc.	....	....	....	....
Switches, frogs, etc.	666	405	6,794	4,848
Railroad spikes	403	558	7,553	7,941
Railroad bolts, nuts, etc.	92	160	2,110	2,441
Boiler tubes	583	1,147	11,947	15,429
Casing and oil line pipe	4,646	10,888	83,267	57,368
Welded black pipe	2,931	5,412	57,876	71,526
Welded galvanized pipe	3,299	2,313	10,852	46,536
Malleable iron pipe fittings	....	570	....	7,372
Malleable iron screw pipe fittings	602	....	10,220	....
Cast iron pipe	....	1,451	....	14,338
Cast iron pipe fittings	....	1,102	....	11,895
Cast iron screw fittings	802	....	7,427	....
Cast iron pressure pipe fittings	1,160	....	12,754	....
Cast iron soil pipe fittings	939	....	6,958	....
Plain iron and steel wire	1,069	4,653	17,260	36,062
Galvanized wire	1,176	4,083	18,197	48,098
Barbed wire	7,205	6,533	80,709	65,230
Woven wire fencing	208	347	3,178	3,905
Wire cloth and screening	86	98	1,555	1,822
Wire rope	194	413	3,935	5,843
Insulated wire and cable	44	87	920	1,346
Other wire	726	1,078	10,516	13,458
Cut nails	168	113	1,854	2,208
Wire nails	874	6,941	20,803	39,491
Horseshoe nails	89	74	954	1,034
Other nails	529	388	4,225	4,888
Bolts, nuts, etc.	1,270	1,445	16,351	17,504
Horseshoes	56	89	920	861
Other iron and steel	5,457	4,789	60,255	61,115
Ferromanganese and spiegeleisen	20	9	3,165	4,293
Ferrosilicon	6	79	765	814
Total	126,877	187,970	1,660,636	1,855,311

DESTINATION OF EXPORTS FOR November, 1924
Gross Tons

Countries	Rails	Galvanized sheets	Plates not fabricated	Tin plate	Terne Sheets, black	Steel, Barbed wire
Argentina	....	3619	....	693	69	537
Australia	....	27	....	....	....	140
Brazil	....	306	....	286	42	1796
British India	....	378	....	....	....	....
Brit. South Africa	....	....	....	....	....	216
Canada	527	1081	3157	1415	3791	1604
Chile	....	27	....	108	....	32
China	328	16	....	399	21	....
Columbia	66	747	....	11	....	1018
Cuba	1386	892	52	185	18	298
Central America	....	477	229	....	....	203
Italy	....	....	....	50	....	....
Japan	....	534	351	0508	8040	....
Kwantung, leased territory	....	....	....	....	....	....
Mexico	286	721	9	347	98	357
Norway	....	219	....	....	....	....
New Zealand	....	....	....	....	....	69
Europe	....	....	....	....	134	....
Other Europe	....	351	....	....	....	....
Other countries	30	188	9	42	87	139
Other South America	5029	345	....	....	31	301
Peru	....	....	....	2	....	....
Philippine Islands	440	1355	471	175	105	303
South America	....	....	102	....	....	....
Spain	773	....	....	....	....	....
Uruguay	....	....	....	28	....	....
United Kingdom	....	....	....	4	....	193
Venezuela	....	....	4	....	....	....

CASTINGS AND FORGINGS EXPORTS
Gross Tons

	November		Eleven months ended November	
	1924	1923	1924	1923
Iron castings	483	572	7,866	9,218
Steel castings	161	299	5,453	4,403
Car wheels and axles	1,697	1,971	20,573	19,318
Iron and steel forgings	166	200	1,511	2,824
Total	2,507	3,042	35,403	35,763

FERROALLOY EXPORTS
Gross Tons

	November		Eleven months ended November	
	1924	1923	1924	1923
Ferrosilicon	6	79	765	814
Ferromanganese and spiegeleisen	20	9	3,165	4,293
Tungsten, manganese and other ferroalloys	437	125	1,373	932
Ferro tungsten, tungsten metal and wire	....	....	2	2
Ferrovanadium	....	6	24	17
Other ferroalloys	4	4	302	103

scrap, steel ingots, bars, etc., structural shapes and rails, accounted for most of the tonnage lost in decreased receipts.

Iron ore imports spurted suddenly in November, going from 200,775 tons in October to 219,679 tons. Manganese ore imports gained from 12,088 tons to 19,919 tons while ferromanganese receipts dropped from 8193 to 6185 tons.

Exports of machinery also recorded a loss in November, most items decreasing. Boring and milling machines dropped from 197 in October to 102 in November and other lines of equipment decreased likewise.

IRON AND STEEL IMPORTS
Gross Tons

	November		Eleven months ended November	
	1924	1923	1924	1923
Pig iron	9,880	9,299	180,966	355,465
Ferromanganese	6,185	4,211	39,274	86,663
Ferrosilicon	1,413	863	10,119	11,333
Scrap	3,571	3,110	53,629	157,526
Bar iron	371	236	4,078	7,359
Steel ingots, bars etc.	2,883	2,943	36,395	20,371
Structural shapes	3,020	523	37,253	9,046
Rails	2,497	3,366	39,599	28,769
Boiler and other plates	1	51	3,254	1,713
Sheets and saw plates	40	233	1,005	9,859
Wire rope and insulated wire	81	71	13,391	940
Wire rods	557	294	6,238	3,611
Total	30,499	25,200	425,201	692,655

OTHER IMPORTS
Gross Tons

Tubular products	4,706	492	51,466	3,611
Round iron and steel wire	197	204	3,120	3,475
Castings and forgings	132	150	2,663	2,459
Nails and screws	39	9	429	1,014
Bolts, nuts and rivets	17	26	154	203
Flat wire and strip steel	130	203	1,971	1,214
Total	35,720	26,284	485,004	704,731

ORIGIN OF FERROMANGANESE AND MANGANESE ORE IMPORTS
Gross Tons

Manganese ore from:	
Turkey-in-Europe	5,868
Germany	23
Netherlands	50
Russia-in-Europe	1,148
Brazil	3,324
British India	3,312
British West Africa	2,852
Total	16,577
Ferromanganese from:	
France, including Luxemburg	29
England	6,155
Total	6,184

IMPORTS OF VARIOUS ORES AND FERROALLOYS

	November		Eleven months ended November	
	1924	1923	1924	1923
Ferromanganese	6,185	4,211	39,274	86,663
Ferrosilicon	1,413	863	10,109	11,330
Manganese ore	19,919	14,790	236,632	194,045
Tungsten ores	.....	.....	.....	.....
Nickel ore	519	225	4,324	5,990
Total	28,036	20,089	290,339	298,028

ORIGIN OF PIG IRON IMPORTS
Gross Tons

From:	
Netherlands	498
England	4,075
Canada	144
British India	5,163
Total	9,880

ORIGIN OF IRON ORE IMPORTS
Gross Tons

From:	November 1923	November 1924	Eleven months ending November 1923	Eleven months ending November 1924
Spain	6,274	1	63,010	214,891
Sweden	9,407	20,562	270,762	725,429
Canada	496	178	3,500	24,703
Cuba	27,868	13,300	270,081	606,679
Chile	152,300	.....	1,043,275	.....
French Africa	15,600	.....	166,282	.....
Other countries	7,734	43,613	44,206	985,538
Total	219,679	77,654	1,861,525	2,557,240

Exports of Machinery

	November		Eleven months ended November	
	1924	1923	1924	1923
Lathes, number	111	128	734	896
Boring and drilling machines, no	102	266	2,192	2,176
Planers, shapers & slotters, no	22	22	237	158
Bending and Power presses, no	46	37	346	273
Gear cutters, no	53	65	444	343
Milling machines, no	36	32	403	280
Thread cutting & screw machines, no	60	21	64	896
Punching & shearing machines, no	14	15	180	360
Power hammers, no	17	45	330	346
Rolling machines, no	...	3	72	33
Sharpening & grinding machines, no	...	355	...	17,748
External grinding machines, no	69	...	2,688	...
Internal grinding machines, no	23	...	488	...
Other grinding & sharpening machines, pounds	140,169	.....	1,101,712	.....
Chucks for machine tools, no	2,010	2,254	22,826	26,990
Reamers, cutters, drills & other metalworking tools, pounds	199,092	168,809	1,789,864	2,346,844
Pneumatic portable tools, no	1,228	1,266	12,841	10,990
Air compressors, no	399	462	5,440	5,197
Cranes—				
With swinging booms, no	3	...	47	...
Other cranes, no	12	...	205	...
Hoists and derricks, except, no	534	814	4,488	4,382
Ball and roller bearings, and parts of chains, lbs.	110,593	192,907	2,138,003	3,008,726
Sprocket and power transmission, pounds	234,192	168,765	3,547,503	2,921,631
Other chains, pounds	596,714	643,501	9,071,726	9,147,186

1924 General Exports Increase Sharply

Washington, Jan. 6.—Export trade of the United States to all quarters of the globe increased during the last year, but the only important expansion was in European markets, which for several years had become depressed. Exports to the markets of Europe increased nearly 20 per cent during 1924, aggregating $325,000,000 than in 1925, without considering the month of December, for which figures are not available now.

The value of the country's export trade to both the United Kingdom and Germany increased more than $100,000,000. Tremendous increases in exports also were shown in the goods purchased in the United States by Netherlands, Belgium and Italy, these totals with those of the United Kingdom and Germany accounting chiefly for the gain in total exports to Europe.

The expansion in the export trade with France was less marked than most of the other European countries, the increase amounting to $11,749,363, the comparative totals for 1924 and 1923 being $253,802,188 and $242,152,825. Exports to the United Kingdom totaled $866,136,098, as compared with $759,325,781 in 1923. Exports to Germany totaled $389,862,854, as compared with $284,422,877.

Both Holland and Belgium increased their purchases from the United States. The export trade with Scandinavia declined, exports to Denmark increasing slightly, but falling off to Norway and Sweden. Minor increases in exports to Spain, Switzerland and Greece bring up the total exports to Europe to $2,171,130,182 for 1924, as compared with $1,847,078,291 in the preceding year, the export trade of Europe accounting for more than one-half of the country's total foreign trade amounting to $4,145,323,645, as compared with $3,740,827,561 in 1923.

Distribution Conference's Plans Outlined

Washington, Jan. 6.—Thirty-seven trade groups, including metals and hardware, will be represented at the opening session of the national distribution conference, to be held in Washington, Jan. 14 and 15, under auspices of the Chamber of Commerce of the United States. Among the spokesmen for these groups will be distributing manufacturers, wholesalers, jobbers, commission men, brokers and retailers, in addition to economists and representatives of the consuming public.

Six avenues of approach to the study of the general problem of distribution and its effect upon retail price levels are indicated in the tentative program for the initial session. These are:

Collection of business statistics as a means toward the accomplishment of economies in distribution.
Regulation and improvement of trade relations.
Avertising and advertising mediums.
Expenses of doing business.
Methods of distribution.
General conditions affecting distribution.

Committees probably will be appointed to study these and other phases of the problem and to report their conclusions at another meeting of the full conference to be held later in the year.

Obituaries

JONATHAN R. JONES, a veteran of the steel industry, and one of the best-known figures in the eastern section, died at Philadelphia, Jan. 3. Although active until recently, Mr. Jones had been in ill health for the past two years. Born 79 years ago, he entered the steel business at the age of 20. At first he was engaged as an engineer in the construction of bridges, and during part of this time was with the Keystone Bridge Co., Pittsburgh. In 1886 he became secretary and treasurer of the Alan Wood Iron & Steel Co. In 1911 he became vice president and treasurer. In 1920, Mr. Jones resigned to become vice chairman of the company but later again became vice president. This post Mr. Jones left in August, 1924, since when, in his capacity as director, he had been serving in an advisory capacity. During the greater portion of his service with the Alan Wood company, Mr. Jones was the supervising head of the sales department and in this capacity was well known to plate, sheet and billet buyers in a large part of the country. He was a member of the American Iron and Steel institute and other bodies.

* * *

Edward T. Porter, aged 58, assistant general superintendent of the Union Supply Co., Uniontown, Pa., died there Jan. 2.

* * *

Safford S. De Lano, treasurer and director of the American Car & Foundry Co., died Dec. 28 at his residence in New York. He was 68 years of age and had been associated with the American Car & Foundry Co. and its predecessors for half a century He also was treasurer and director of the American Car & Foundry Export Co.

* * *

R. C. Crawford, aged 65, well known coal operator in the Pittsburgh district, died Dec. 26 at his home in that city. Among other companies he was secretary, treasurer and a director of the Emerald Coal & Coke Co. For many years prior to his entry into the coal mine activity he was identified at McKeesport, Pa., with the National Tube Co.

* * *

Christian Kiechler, 88 years old, founder of the Kiechler Mfg. Co., Cincinnati, died at his home in that city Dec. 27, following an illness of three weeks. The Kiechler company which he founded about 60 years ago does a sheet metal business and Mr. Kiechler was known throughout this country and Europe as an authority on methods of treating steel. Mr. Kiechler, also was the inventor of a steel cylinder which is used in the manufacture of artifical ice. Mr. Kiechler was born in Germany and came to the United States with his parents when he was 6 years old. He served three terms as fire commissioner of Cincinnati.

* * *

Charles Lanz, aged 68, head of the M. Lanz industries in Pittsburgh, and recent president of the borough council at Carrick, Pa., died in his home there Dec. 22. Mr. Lanz became interested in the industries conducted by his father, and later became head of the M. Lanz Bolt Co. and the M. Lanz Brick & Tile Co.

* * *

Olaf Hoff, civil engineer, who invented the method of tunneling used under the Detroit river and who was one of the builders of the Pennsylvania railroad's tunnels under the Hudson river, died Dec. 24, at his home in Montclair, N. J. He was born in Norway 65 years ago and educated in that country. In 1880 he came to the United States and went with the Keystone Bridge Co., Pittsburgh. The following year he became engineer of bridges for the Mexican Central railway and later engaged with the Shiffler Bridge Works of Pittsburgh, as designing engineer. He also was for a time engineer of bridges and building of the New York Central railroad.

* * *

John K. Frye, formerly a business man of Pittsburgh, died Dec. 28 at his home in Cleveland. He was associated for a number of years with Banning, Cooper & Co. of Pittsburgh, later joining the Donner Steel Co. in Buffalo. From there he moved to Cleveland where he was president of the Co-operative Coal Co.

* * *

Manning R. Kelley, aged 66 years, construction engineer and a pioneer in the field of hydroelectric power development, died Jan. 2 at his home in Cleveland. Mr. Kelley had been for 15 years directing engineer in the water wheel and turbine department of the Wellman-Seaver-Morgan Co., that city. He had supervised the construction of many large hydroelectric power plants.

* * *

Walker Peterson, aged 73, owner of the Warwood Tool Co., Wheeling, W. Va., died Jan. 3 at his home there after a brief illness. He was chairman of the board of directors of the Dollar Savings & Trust Co., Wheeling, and until last November had been its president for many years. He also held large interests in many of the manufacturing plants of the Panhandle division, Pennsylvaia railroad.

* * *

Frederick C. Riddile, aged 59, general manager of the Edgewater Steel Co., Pittsburgh, and a prominent figure in the civic affairs of Oakmont, Pa., died Dec. 21 in the Columbia hospital after a week's illness. He was born near Burgettstown, Pa., a son of the late Dr. William V. Riddile. His early life was spent in Pittsburgh. When a young man he entered the employ of the Oliver Iron & Steel Co. and later went to the Latrobe plant of the Railway Steel Spring Co. From there he went to Chicago Heights, Ill., as general superintendent of the Inter-Ocean Steel Co. Mr. Riddile had been general manager of the Edgewater Steel Co. since its organization in 1916. Shortly before his death Mr. Riddile was elected president of the Allegheny Valley Trust Co., Verona, Pa.

* * *

Henry Irwin Jr., treasurer and director of the Shenango Furnace Co., Pittsburgh, and prominent in the iron and steel business for a long period of years, died Jan. 2 in his home in Maple Lane, Shields, Pittsburgh, after a week's illness with pneumonia. Mr. Irwin was born on the North Side, Pittsburgh, Aug. 19, 1852, the son of Henry and Elizabeth Peterson Irwin, a prominent pioneer family, his father having served a term as mayor of Allegheny before it became a part of Pittsburgh. He was educated at Professor Wakeham's school and the Western University of Pennsylvania now the University of Pittsburgh. After leaving school he entered the coal, coke and brokerage business, and about 37 years ago became associated with the late William Penn Snyder in the iron ore and pig iron industry. It was in 1888 when W. P. Snyder & Co. became organized, that he commenced his affiliation with the Snyder interests which continued uniterruptedly until his death. When the Shenango Furnace Co. was formed, he was elected its treasurer. Mr. Irwin also was treasurer and director of the Shenango Steamship Co. and the Shenango Steamship & Transportation Co.

Tool Recovery Still Delayed

Inventories and Holiday Vacations Unsettle Market—Betterment Not Expected for Several Weeks—Railroad Awards Continue Scattered and Small—Used Equipment Demand Quiet and Prices Weak—Crane Builders Book Better Volume

RECOVERY in the machine tool market awaits better business. The reaction from holiday and inventory-taking dullness has not started. Inquiries are slightly better but these are not reflected in increased sales, and the volume of bookings remains lower than at this time in December. Railroads are not beginning to open up as yet on 1925 requirements despite scattered lists for a few tools. Industrial buying also lacks strength although better than either automotive or railroad.

A large number of inquiries for export tools has been received lately in Cincinnati, coming from South America, England, Mexico, and Japan. The last named country proves to be the best buyer from Cleveland district manufacturers, one builder having booked an order for seven machines in the past week. This builder booked several single tools also for Japan in the last month.

School board buying still spasmodically is the center of attraction, 40 machines for the Essex county vocational schools, Irvington, N. J., having been awarded eight builders.

Used equipment sales are steady, but price weakness continues to cut into the profits of most dealers and better business is awaited eagerly to strengthen the market in some districts.

Crane builders have had better bookings in the past week than in the last half of December. Inquiries are in better volume and increased sales are expected for the remainder of the month.

Better Business Expected To Help Machinery

NEW YORK, Jan. 6.—Scattered orders feature trading in the eastern machine tool market as 1925 gets under way. No large new lists are pending and prospects for an early revival are none too promising. Included in current buying are a 25-50-inch gap lathe, a 16 x 27-foot engine lathe and a 66-inch horizontal boring and drilling machine for the New York Central railroad; a 50-ton bushing press for the Hanna Stoker Co.; a 42-inch rotary planer for the McClintic-Marshall Co., Pittsburgh; three 48-inch car wheel borers for the Mt. Vernon Car & Mfg. Co.; a 5-foot radial drill, and 20-foot engine lathe for the Electric Boat Co., of New England; 5 and 6-foot radial drills for the American Steel & Wire Co., Chicago; and two 1500-pound steam hammers for the Pullman Car & Mfg. Co.

Orders against the list of approximately 40 machine tools for the Essex County vocational school, Irvington, N. J., noted as placed in a previous issue was distributed among eight builders. Twelve or 15 woodworking machines were also placed, the orders going to two builders. The board of education, Newark, N. J., placed three machines, including two lathes. The General Electric Co., noted in a previous issue as inquiring for machine tools for Cincinnati, is supplying much equipment from other plants.

A leading crane order calls for five 20-ton locomotive cranes for the Delaware, Lackawanna & Western railroad. Four 150-ton wrecking cranes are also reported placed. New inquiries still are coming out slowly, although the general tone of the market appears better. Rapidly increasing activity in industry generally is expected to be felt before long.

Buying Movement Still Delayed

CLEVELAND, Jan. 6.—Buying of machine tools and equipment still is delayed, inventories and holiday disruption still having its effect upon the market. Demand is not expected to open up before another week or two, with a semi-cheerful feeling as to the extent of demand at that time. Some interests believe that recovery will continue to be delayed on intangible pretexts while others expect a much stronger market before summer.

Little railroad activity is entering this territory. The New York Central has brought out inquiry for several more tools, but closing action against its steadily increasing list is slow. Most of the recent awards by this road have been in the East, although a late inquiry is for a tool at its Elkhart, Ind., shops. Automotive demand is a minus quantity, with little inquiry from that source and fewer sales. General industrial demand continues limited.

Export demand is limited with several inquiries from individuals in South America. Japan continues to buy American tools, one Cleveland manufacturer having closed on seven to that country recently.

Used equipment sales are slow, with but fair outlook. Price competition continues keen and much of the business going at present is bringing undesirable prices to most dealers.

Crane demand is but fair, with the sales by the Alliance Machine Co., Alliance, O., featuring recent bookings. This company closed on 16 cranes within the past few weeks.

Inquiries Begin to Open Up

PITTSBURGH, Jan. 6.—Large and small inquiries for machine tools, cranes and other equipment running into a large aggregate monetary investment are commencing to appear. While in some respects these inquiries do not come up to expectations, one or two crane sellers reporting a distinct lack of interest as far as brand new inquiries are concerned, nevertheless a general feeling of optimism prevails.

Most sales of machine tools have involved single items for the past two or three weeks. The Westinghouse Electric & Mfg. Co. is getting ready to buy on its first quarter list which calls for 50 to 70 items. The National Tube Co., McKeesport, Pa., has issued a new list calling for four machines, including a boring mill, lathe, planer and radial drill. The Carnegie Steel Co. has not started to buy as yet on its list for a new machine shop. The Patterson Foundry & Machinery Co., East Liverpool, O., has put out an interesting list calling for 17 or 18 items including a 42-inch lathe, 72-inch lathe, 8-foot boring mill, 42-inch planer and a number of smaller lathes. Used machinery in good shape may be purchased. It also will buy considerable foundry equipment, including core oven, ladles, flasks, etc. The Ricks Mfg. & Supply Co., Uniontown, Pa., which wants a 2-ton monorail hoist, also is buying foundry equipment including flasks. The Rail-

way Industrial Engineering Co., Greensburg, Pa., also is purchasing flask equipment. The foundry equipment market in general is quiet, although molding machine users have been active in placing orders and issuing inquiries. Inquiries for about 100 molding machines are pending.

Several individual crane sales have been made recently and one to the Bradford Brick & Tile Co. involved four. A number of crane inquiries are pending, including five for the Pittsburgh Transformer Co. here, issued through the Austin Co., Cleveland.

Buyers Slow To Appear

BOSTON, Jan. 6.—The expected rush of machine tool orders after the first of the year has not developed in New England. Sentiment in the trade continues exceedingly cheerful and many substantial lists are expected to be closed within the near future. New England machine tool builders report a gradual increase in orders, but the chief centers of activity are outside of the New England district. The Boston & Albany railroad is in the market for a special planer. A Rhode Island school is asking for quotations on a list of seven tools. Other inquiry before the trade of a less formal nature totals 10 or 12 tools. Sales of the past week include a cut-off tool and other special equipment for a New Hampshire manufacturer, a shaper and a drill press for a manufacturer of printing machinery, and several tools to textile mills. Dealers in used equipment report present conditions exceedingly dull. Manufacturers who are prospective buyers for the most part report that inventory work and the closing of 1924 books prevent tool buying at present.

Sales Slow and Spotty

CHICAGO, Jan. 6.—The Universal Portland Cement Co. is inquiring for a 36-inch open side planer for its works at Buffington, Ind. The Charter Gas Engine Co., Sterling, Ill., is expected to be in the market for some equipment as a result of its proposed machine shop addition.

The Pennsylvania railroad is placing with a Pittsburgh dealer a shaper for its Fort Wayne, Ind., shops. The Holt Co., Peoria, Ill., has bought a 5-foot radial drill and two 4-foot radial drills. Dubuque, Iowa, has placed a No. 2 milling machine and an 8-foot x 24-inch planer for its schools. The Rock Island railroad is inquiring for a 100-inch boring mill.

It is too early in the year for railroad inquiry to be out but a good volume is looked for shortly One machinery house booked more business in December than in any month in the past four years.

Demand Seasonally Slow

CINCINNATI, Jan. 6.—Several single machine tool orders are noted by each of a number of manufacturers in this vicinity, action on the larger lists still being deferred. Inquiry has been good and apparently it is for buying and not merely curiosity. Actual placement of machine tools have been comparatively few. The trade in general is of the opinion that business will improve materially after the users complete inventories and actually learn what they need in the line of machinery and equipment.

A feature at this time is the volume of inquiries from foreign countries. England, Mexico, Japan and South American countries are inquiring for Cincinnati made tools, but few orders of consequence have been booked to date. The Cincinnati Planer Co. reported an order from the American Steel & Wire Co., Cleveland, for a 60-inch open side planer. Buying has been of a general nature and is not traceable to any individual trades. The automobile manufacturers probably come first in the number of tools taken in recent weeks.

Crane Awards and Inquiries of the Week

Orders Placed

Eight overhead cranes for the General Electric Co., Schenectady, N. Y., as follows: four electric overhead cranes, 3 to 10 tons capacity, for Detroit, and three 3-ton cranes for West Philadelphia, to the Northern Engineering Works; one 5-ton crane for West Philadelphia, to the Whiting Corp.; the original inquiry called for 12, four of which were alternates.

Six, 1½-ton special cranes and one 5-ton crane for the Niagara Electrolytic Iron Co., Niagara Falls, N. Y., to the Alliance Machine Co.

Five 20-ton locomotive cranes with 40-foot boom for the Delaware, Lackawanna & Western railroad, to the Ohio Locomotive Crane Co.

Four cranes, 5 to 10-ton capacity, for the Bradford Brick & Tile Co., Bradford, Pa., to the Shaw Electric Crane Works.

Four 150-ton wreckers, two of which are for the New York Central, reported placed with Industrial Works.

Three electric cranes, for the Lackawanna plant of the Bethlehem Steel Corp., to the Alliance Machine Co.; specifications call for one 40-ton, 3-motor crane, 21-foot span, one 10-ton, 4-motor crane, 56-foot span, and one 10-ton, 3-motor crane, 42-foot 6-inch span; five cranes for the Lackawanna plant are still pending.

Two 15-ton cranes with 20-foot span for the Youngstown Sheet & Tube Co., Youngstown, O., to the Shaw Electric Crane Works, credited erroneously in Dec. 11 IRON TRADE REVIEW to the Morgan Engineering Co.

Two 40-ton cranes for the Jones & Laughlin Steel Corp., Pittsburgh, to the Alliance Machine Co.

Two cranes, including one 100-ton capacity and one slab charging crane, for the Carnegie Steel Co., Pittsburgh, to the Allianee Machine Co.

Two handpower cranes for a Brooklyn stone yard, to the New Jersey Foundry & Machine Co.; one is a 5-ton crane, with 25-foot span, and the other, a 3-ton crane, with 20-foot span.

Single Installations

100-ton, 117-foot 3-inch span, for undisclosed interest, to Alliance Machine Co.

75-ton electric crane, 35-foot span, for the Broad River Power Co., placed in the Philadelphia district with an eastern builder.

30-ton locomotive crane for the Carnegie Steel Co., New Castle, Pa., to the Ohio Locomotive Crane Co.

25-ton electric traveling crane for the Duquesne Light Co., Pittsburgh, to the Shaw Electric Crane Works.

25-ton crane, 40-foot span, for the City of Lakewood, Fla., to an eastern builder.

15-ton crane for the Otis Steel Co., Cleveland, to the Alliance Machine Co.

10-ton gantry crane for the LaClede Steel Co., Alton, Ill., to the Alliance Machine Co.

10-ton, 3-motor mill type crane with 76-foot 11½-inch span for the Standard Seamless Tube Co., Economy, Pa., to the Milwaukee Electric Crane & Mfg. Co.

10-ton handpower crane, 15-foot span, for a Passaic, N. J., dealer, to the New Jersey Foundry & Machine Co.

8-ton, 58-foot span crane for undisclosed interest, to Alliance Machine Co.

5-ton handpower crane, 22-foot span, for the American-La France Engine Co., Bloomfield, N. J., to Alfred Box & Co.

4-ton electric crane, 16-foot, 8-inch span, for the National Biscuit Co., Marseilles, Ill., to Alfred Box & Co.

3-ton handpower crane, 24-foot span, for a stone yard in New York, to the New Jersey Foundry & Machine Co.

2-ton underhung handpower crane, 18-foot span, for a Jersey City dealer, for installation in a stone yard, to the New Jersey Foundry & Machine Co.

2-ton underhung crane, 27-foot span, for the La Fayette Mirror Co., Brooklyn, N. Y., to the New Jersey Foundry & Machine Co.

One soaking pit crane and one gantry crane for Worth Bros. Co., to Alliance Machine Co.

Logging crane for the Ozan Graysonia Lumber Co., a southern company, to American Hoist & Derrick Co.

Orders Pending

Five electric cranes for the Lackawanna plant of the Bethlehem Steel Corp., early action expected.

Five cranes, 2 to 25-ton capacity, for the Pittsburgh Transformer Co., Pittsburgh, inquiry issued through the Austin Co., Cleveland; reported divided between the Cleveland Crane & Engineering Co., Wickliffe, O., and the Northern Engineering Works, Detroit, but not confirmed.

Four cranes for the McDonald works, Youngstown, O., of the Carnegie Steel Co., together with one electric clamshell bucket; inquiry out.

Four electric overhead cranes, 3 to 10 tons, for the Cincinnati plant of the General Electric Co.; bids asked.

2-ton electric trolley and hoist for the Puget Sound navy yard; bids closed Jan. 20.

2-ton monorail hoist, Ricks Mfg. & Supply Co., Uniontown, Pa.; bids being taken.

One crane for the Memphis, Tenn., terminal of the Jones & Laughlin Steel Corp.; permit for terminal granted Jan. 2; project now to be completed quickly.

Several cranes for the National Tube Co., Gary, Ind.; orders to be placed soon.

Special hoist for the National Cash Register Co., Dayton, O.; bids being taken.

Recent Industrial Business Changes

GUNN, CARLE & CO., San Francisco, prominent in the iron and steel industry on the Pacific coast since 1909, have purchased the business of the Pacific Materials Co. Gunn, Carle & Co. have specialized in the fabrication and installation of steel bars and in the handling of pig iron, coke and ferroalloys. The Pacific Materials Co. was incorporated in 1914 and has been handling a wide line of builders' supplies and equipment. The offices of the latter company, 525 Market street, will be closed and consoliated with the present offices of Gunn, Carle & Co., 444 Market street.

* * *

Diamond Wire Co., Buffalo, N. Y., has merged with the Rome Wire Co., Rome, N. Y.

* * *

Stephen Smith & Co., 639 Mission street, San Francisco, have been appointed California representatives for the Iowa Valve Co., St. Louis.

* * *

The New York office of the Louis Allis Co., Milwaukee, has been moved from 345 Madison avenue to 8 East Forty-first street.

* * *

On Jan. 1, the Folsom Street Iron Works, Eighteenth and Treat avenues, San Francisco, moved to its new plant at Seventeenth and Missouri streets. Rapid increase in the company's business necessitated larger manufacturing space. John Schneider is manager for the company.

* * *

The Cincinnati office of the J. F. Corlett & Co. iron and steel merchant has been moved from the First National Bank building to larger quarters at 825-26 Union Trust building.

* * *

Dubers Machine Shop, Albany, N. Y., has changed its name to the Dubers Machine Co.

* * *

The Los Angeles Iron Works, Los Angeles, has changed their name to Steyer Iron Works to avoid confusion with other companies of somewhat similar names.

* * *

Earle M. Jorgensen Co., Washington building, Los Angeles, has been appointed representative in the southern part of California, south of Bakersville, for the Swedish Steel & Importing Co. of United States.

* * *

R. B. Lang Mfg. Co., Racine, Wis., has been incorporated by J. B. Simmons, Peter J. Myers and M. W. Everett. The capital is 750 common shares of no par value. The company takes over the hardware specialty and sheet metal stamping business at Holborne avenue and Eighteenth street, conducted for many years by the late Robert B. Lang of Racine.

* * *

The Stanwood Corp. has been organized at Cincinnati, with a capital of $150,000 to take over the plant of the Houston, Stanwood & Gamble boiler and engine plant in Covington, Ky. The plant was sold a week ago at a receiver's sale. The Stanwood corporation was organized by the First National bank, Cincinnati. Election of officers will be held in January.

* * *

Chicago Pneumatic Tool Co., 6 East Forty-fourth street, New York, has appointed the Smith & Woodbury Co., 55 Second street, Portland, Oreg., as distributor for its products in Oregon and southwest Washington. The Chicago company manufactures pneumatic and electric machinery, rock drills, and air compressors. It will maintain a service department in Portland.

* * *

Tate-Jones & Co., Inc., Pittsburgh, has arranged with the General Furnace Co., 1015 Chestnut street, Philadelphia, to handle the sales of its products. The General Furnace Co. will take over the sales force of Tate-Jones & Co., Inc. allowing the latter company to concentrate on the manufacture, development and improvement of its standard line of gas and oil fired and electric furnaces.

New Construction and Enterprise

Where additional information is presented, reference is made to date of issue in which previous item appeared.

BIRMINGHAM, ALA.—McWane Cast Iron Pipe Co., 3600 North Eleventh avenue, is reported as planning extensions to its plant, including a new machine shop, extension of foundry capacity and new sand storage warehouse. Machinery and equipment of the old machine shop will be moved into the new structure, but additional tools will be required for the enlarged capacity.

LOS ANGELES—The American Refractories Co. has been incorporated with $100,000 capital stock, by F. E. Keeler, Mason City, Iowa; G. Ray Boggs, Earl McClintic, Ben S. Hunter and J. S. Bailey of Los Angeles.

LOS ANGELES—Automobile Service & Cleaning Corp., Rector hotel, is in the market for automobile repair shop tools. It is constructing three 1-story shop buildings on Sunset boulevard. A. B. Crist, 5646 Hollywood boulevard, is engineer.

LOS ANGELES—The Eriez Stove & Mfg. Co. has been incorporated with $50,000 capital stock by J. E. Nelson, Erie, Pa.; J. Graham Hambly and Phil D. Jones of Los Angeles. Byron D. Seaver, 914 Hollingsworth building, is attorney for the company.

LOS ANGELES—The L. A. Spring & Forge Co. has been incorporated with a capital stock of $50,000. Directors are J. A. Earhuff; C. V. Feliz, J. C. Valpey and Reese Evans, all of Los Angeles. R. D. Neighbours, 735 Pacific Mutual Life building, is attorney for the company.

ATLANTA, GA.—Fruit Growers Express Co., Walton building, is reported as contemplating constructing a $450,000 plant. Work has started on six of the buildings planned on a site of 21 acres. Plants include a machine shop, wood mill, air brake shop, sheet metal shop and axle shop. Operations are expected to begin in February. H. B. Spencer is president of the company with offices in the Munsey building, Washington, D. C.

CHICAGO—Goldberg & Cohen, 3622 Lexington street, have retained Joseph Cohen & Co., 160 North La Salle street, as architect, for a 1-story, 150 x 175-foot garage.

CHICAGO — Imperial Metal Corp., 3646 South Rockwell street, has been formed with $10,000 capital, by Fred I. Simon, Louis L. Becker and Max M. Korshak.

CHICAGO—American Bed Springs Co., 3833 South State street, has been incorporated for $10,000 to manufacture and deal in bed springs, by Oscar Fisher, N. D. Altshuller and T. A. Unterberger.

CHICAGO—Round Oak Heating Co., 223

Warehouse Steel Prices

Quotations at Cents Per Pound at Leading Market Centers

STEEL BARS

Boston	3.265c
Buffalo	3.30c
Chicago	3.00c
Cincinnati	3.30c
Cleveland	3.10c
Detroit	3.15c
Los Angeles	3.00c
New York	3.24c
Philadelphia	3.20c
Pittsburgh	2.90c
Portland	3.00c
San Francisco	2.85c
Seattle	3.25c
St. Louis	3.15c
St. Paul	3.25c

IRON BARS

Boston	3.265c
Buffalo	3.35c
Chicago	3.00c
Cincinnati	3.30c
Detroit	3.15c
New York	3.24c
Philadelphia	3.20c
St. Louis	3.15c

REINFORCING BARS

Boston	3.25c to 3.50c
Buffalo	3.40c
Chicago	2.60c
Cincinnati	3.30c
Cleveland	3.10c
Detroit	3.15c
Los Angeles, C. L.	3.60c
Los Angeles, L. C. L.	4.00c
New York	2.80c
Philadelphia	2.80c
Pittsburgh	2.30c to 2.40c
San Francisco, C. L.	3.35c
San Francisco, L. C. L.	3.80c
Seattle	3.50c

STANDARD STRUCTURAL SHAPES

Boston	3.365c
Buffalo	3.40c
Chicago	3.10c
Cincinnati	3.40c
Cleveland	3.20c
Detroit	3.25c
Los Angeles	3.00c
New York	3.34c
Philadelphia	2.90c to 3.10c
Pittsburgh	3.00c
Portland	3.00c
San Francisco	3.00c
Seattle	3.35c
St. Louis	3.25c
St. Paul	3.35c

PLATES

Boston	3.365c
Buffalo	3.40c
Chicago	3.10c
Cincinnati	3.40c
Cleveland, ¼-inch and thicker	3.20c
Cleveland, 3/16-inch	3.425c
Detroit	3.20c
Detroit, 3/16-inch	3.45c
Los Angeles	3.00c
New York	3.34c
Philadelphia	2.90c to 3.10c
Philadelphia, 3/16-inch	3.06c to 3.26c
Pittsburgh	3.00c
Portland	3.00c
San Francisco	3.00c
Seattle	3.25c
St. Louis	3.25c
St. Paul	3.35c

NO. 10 BLUE ANNEALED SHEETS

Boston, 3/16-inch	3.915c
Buffalo	4.05c
Chicago	3.80c
Cincinnati	3.90c
Cleveland	3.45c to 3.76c
Detroit	3.95c
Los Angeles	4.05c
New York	3.89c
Philadelphia	3.75c
Portland	4.50c
San Francisco	3.95c
Seattle	4.50c
St. Louis	3.90c
St. Paul	4.05c

NO. 28 BLACK SHEETS

Boston	5.10c
Buffalo	4.75c
Chicago	4.50c
Cincinnati	4.55c
Cleveland	4.35c to 4.55c
Detroit	4.65c
Los Angeles	5.15c
New York	4.60c
Philadelphia	4.85c
Portland	5.00c
San Francisco	5.00c
Seattle	5.50c
St. Louis	4.65c
St. Paul	4.85c

NO. 28 GALVANIZED SHEETS

Boston	6.15c
Buffalo	5.85c
Chicago	5.50c
Cincinnati	5.65c
Cleveland	5.45c to 5.65c
Detroit	5.75c
Los Angeles	6.00c
New York	5.60c
Philadelphia	6.00c
Portland	6.00c
San Francisco	5.90c
Seattle	6.50c
St. Louis	5.65c
St. Paul	5.65c to 5.90c

BANDS

Boston	4.015c
Buffalo	4.05c
Chicago	3.65c
Cincinnati	3.95c
Cleveland	3.85c
Detroit	3.80c
Los Angeles	4.00c
New York	3.99c
Philadelphia	3.95c
Pittsburgh	3.60c
Portland	4.00c
San Francisco	3.60c
Seattle	4.25c
St. Paul	3.90c

HOOPS

Boston	5.50c
Buffalo	4.40c
Chicago	4.15c
Cleveland, 1-inch and wider No. 20 and heavier	3.85c
Cleveland, narrower than 1-inch	4.35c
Detroit	4.30c
New York	4.49c
Philadelphia, ¾-inch and wider, 20 gage and heavier	3.95c
Philadelphia—narrower than ¾-inch	4.45c
Pittsburgh	3.60c
Seattle	5.00c
St. Paul	4.70c

COLD FINISHED STEEL

Boston (shapes)	4.65c
Boston (rounds)	4.15c
Buffalo (rounds)	4.20c
Buffalo (shapes)	4.70c
Chicago (shapes)	4.30c
Chicago (rounds)	3.80c
Cincinnati (rounds)	4.05c
Cincinnati (shapes)	4.55c
Cleveland (rounds	4.00c
Cleveland (shapes)	4.50c
Detroit (rounds)	4.10c
Detroit (shapes)	4.60c
Los Angeles (rounds)	4.75c
New York (rounds)	4.15c
New York (shapes)	4.65c
Philadelphia (rounds)	4.15c
Philadelphia (shapes)	4.65c
Pittsburgh (rounds)	3.80c
Pittsburgh (sq. hex. and flats)	4.30c
Portland	4.50c
San Francisco (rounds)	5.25c
Seattle (rounds)	4.75c
St. Paul (rounds)	4.05c

WELDED PIPE

Discounts from warehouse, New York City

Standard Steel Pipe (Subject to Shading)

	Black	Galvanized
⅛-⅜-inch butt	—31	+ 2
½-inch butt	—41	—24
¾-inch butt	—46	—32
1/3-inch butt	—48	—34
3½-inch lap	—44	—30
7-8-inch lap	—41	—11
9-10-inch lap	—35	— 8
11-12-inch lap	—34	— 6

Wrought Iron Pipe

	Black	Galvanized
⅛-⅜-inch butt	+44	+78
½-inch butt	— 4	+19
¾-inch butt	—11	+ 9
1-1½-inch butt	—14	+ 6
2-inch lap	— 5	+14
3-6-inch lap	—11	+ 6
7-12-inch lap	— 3	+16

Iron and Manganese Ores and Minerals

Iron Ore

LAKE SUPERIOR ORES

Per Gross Ton Lower Lake Ports

Old range bessemer, 55 per cent iron	$5.65
Mesabi bessemer, 55 per cent iron	5.40
Old Range nonbessemer, 51½ per cent iron	4.90
Mesabi nonbessemer, 51½ per cent iron	4.75

EASTERN LOCAL ORES

Cents per unit delivered at Eastern Pennsylvania and New Jersey furnaces

Foundry and basic 53 to 63 per cent	9.00 to 10.00
Copper free low phosphorus 53 to 65 per cent	nominal

FOREIGN IRON ORE

Cents per unit, c.i.f. Atlantic ports

Spanish low phosphorus, 52 to 54 per cent	9.50 to 10.00
Algerian low phosphorus, 52 to 54 per cent	10.50 to 11.00
Swedish and Norwegian low phosphorus, 68 per cent	11.00 to 11.50
Swedish foundry or basic, 66 to 68 per cent	9.00 to 10.00
Spanish foundry or basic, 50 to 54 per cent	8.00 to 9.00
Algerian foundry and basic, 50 to 54 per cent	8.00 to 9.00

Manganese Ore

Prices do not include duty at rate of 1 cent per pound of metallic manganese contained.

Brazilian, minimum 47 per cent....nominal
Indian, minimum 47 per cent....nominal
Caucasian, 53 to 55 per cent....
.....Ordinary, nominal c.i.f. tidewater
.....Washed, 42 cents c.i.f. tidewater

Fluor Spar

85 and 5 per cent grade

Washed gravel, Kentucky and Illinois mines, per net ton	$20.00
Washed gravel, imported duty paid eastern tidewater, per net ton	17.50 to 18.50

WABIK METAL

for
Vitreous Enameling

Stove Door Panels; Splasher Backs; Broiler Pans; Table Tops; Refrigerators; Signs, and other flat work.

We also specialize

METAL FURNITURE SHEETS

and

AUTOMOBILE SHEETS

Body Stock; Flat Fender and Hood Stock; Cowl Stock; Radiator Casing Stock; Crown Fender Stock.

PICKLED and ANNEALED ENAMELING STOCK

For Kitchen Utensils

MILK CAN STOCK

"Mansfield" Steel is the ultimate in Sheet Bars and in Sheets. It means satisfaction to the many users. Constant study of the needs of users, and continuous application of the results of such study, in the way of improved methods in our plants, has established a reputation for unsurpassed reliability.

All *"Mansfield" Products* are rolled from our own "Bottom Poured" Ingots. They are very low in sulphur.

We solicit your inquiries.

SHEET BARS

and

INGOTS

MANSFIELD SHEET & TIN PLATE COMPANY

MANSFIELD, OHIO

DISTRICT SALES REPRESENTATIVES

L. D. Rockwell Co., 1106 National City Bldg., New York, N. Y.
Mansfield Sheet & Tin Plate Co., 1372 Wrigley Bldg., Chicago, Ill.
Mansfield Sheet & Tin Plate Co., 12-237 General Motors Bldg., Detroit, Mich.
L. D. Rockwell Co., 2002 Union Trust Bldg., Cleveland, O.
Wm. L. Hoffman, 1504 West Venango St., Philadelphia, Pa.
C. H. Beach, 1403 Merchants Bank Bldg., Indianapolis, Ind.
Maynard French Steel Co., 710 Mercantile Library Bldg., Cincinnati, O.
A. P. Grenier, 640 Endicott Bldg., St. Paul, Minn.
Wm. P. Horn Co., 237 Rialto Bldg., San Francisco, Cal.
Wm. P. Horn Co., 509 Wilcox Bldg., Los Angeles, Cal.
Wm. P. Horn Co., 1426 L. C. Smith Bldg., Seattle, Wash.

West Jackson boulevard, has been incorporated for $5000 to manufacture and deal in furnaces, stoves and ranges, etc., by Beverly B. Vedder, Charles L. McGaughey and Vergil M. Hancher.

CHICAGO—Gasoline Alley Garage & Supply Co., 1122 Catalpa street, has been incorporated to conduct a general garage, auto repair and supply business, by Walter W. Drew, Albert W. Eaton and William D. Gannon.

CHICAGO—Philip Zisken, 6141 South May street, has awarded contracts for a 1-story, 100 x 119-foot commercial garage and repair shop. M. L. Bein, 64 West Randolph street, is architect.

CHICAGO—Berkeley Garage Co., 5210 Berkeley avenue, has retained Henry L. Newhouse and F. M. Bernham, 4630 Prairie avenue, as architects for a 1-story, 26 x 83-foot public garage and repair shop.

CHICAGO — John P. Lynch, 232 South Franklin street is planning construction of a 1-story, 100 x 130-foot brick garage and sales room, for which Davis Meredith, 218, 4750 Sheridan road, is architect.

CHICAGO—S. & L. Motor Co. has retained A. L. Alschuler, 28 East Jackson boulevard as architect for 1 and 2-story, 100 x 165-foot garage addition. Jacob Lindheimer, 3812 South Wabash avenue, is president of the Motor company.

CHICAGO—Chicago, Burlington & Quincy railroad has retained W. T. Krausch as architect for a 2-story, 100 x 150-foot warehouse of brick and stone at 102nd street and Calumet river. Hale Holden, 547 West Jackson boulevard, is president of the road.

CHICAGO—Kedzie Foundry Co., 3234 West Thirty-first street, has awarded general contract to A. E. Bjork, 133 West Washington street, for a 1-story, 40 x 200-foot brick and corrugated iron foundry at 3234 West Thirty-first street. A. E. Bjork also is architect.

CHICAGO—Porter Estate, 38 South Dearborn street, in care of H. N. Rose, has awarded contracts to Foltz & Brand, 510 North Dearborn street, for a 7-story, 48 x 154-foot garage and repair shop. Foltz & Brand, 510 North Dearborn street, are architects.

CHICAGO—Fords Milker, Inc., 213 North Des Plaines street, has been incorporated for $10,000 to manufacture and deal in machinery, specialties, agricultural implements, etc., by D. W. Myers, S. P. Sherman, E. G. Myers and R. L. Sherman.

CHICAGO—Grand Plumbing & Heating Co., 518 North Wells street, has been formed with $15,000 capital, to manufacture and deal in plumbing and heating supplies, hardware, fixtures, etc., by M. Goldberg, Jacob Goldberg and Gus Goldberg.

CHICAGO—Tuthill Building Material Co., 131 South Sixty-third street, has awarded contracts to Erickson & Christianson, 6437 South Park avenue, for a 1-story, 125 x 150-foot garage. H. G. Sailor, 719 West Sixty-third street, is architect.

CHICAGO—Northern Smelting & Refining Co., Inc., 508 Kolmar avenue, has been incorporated for $100,000 to manufacture and deal in forms and combinations of iron and steel, by Benjamin Dwell, Jacob Ginsburg, Harry Cohn and Joseph Schaffer.

CHICAGO—Chicago-Air-Way Corp., 537 South Dearborn street, has been incorporated for $25,000 to manufacture and deal in electrical accessories, appliances and parts, by Frank G. Callahan, Martin J. Callahan and Richard H. Mather.

CHICAGO—St. Louis Forgings Co., Inc., 80 East Jackson boulevard, has been incorporated with 12,000 shares no par value stock, to manufacture and deal in iron and steel forgings of every kind, by Albert G. Ziesk, Harold M. Morris and Theodore Sirene.

CHICAGO—Chicago Motor Co. has retained E. C. Ecker & Association, 110 South Dearborn street, as architects for 1 and 2-story, 225 x 267-foot garage and repair shop. John A. Ritchie, 4533 Wilcox avenue, is president of the Chicago Motor Co.

CHICAGO—Koro Electric Corp., 325 West Ohio street, has been incorporated for $40,000 to manufacture and deal in electrodes, machines for their use, and other products, by Chester W. Kulp, Bernard Barnard and Rudolph W. Glasner.

CHICAGO—Chummy Co., 229 West Illinois street, has been incorporated for $75,000 to manufacture and deal in radio sets, parts, equipment, automobile accessories, etc., by Walter J. Brouder, Gilbert I. Stadeker and John C. Carpenter.

CHICAGO—James B. Clow & Sons have retained Leonard Construction Co., 37 South Wabash avenue, as architects for a 4-story, 115 x 200-foot plant at Talman and Fulton streets. William E. Clow, 534 Franklin street, is president of the Clow organization, which manufactures pipe and other metal products.

CHICAGO—Somerville Iron Works, has retained S. Scott Joy, 20001 West Pershing road, as architect for a 2-story, 50 x 55-foot warehouse. William B. Neil, 1334 322 South Michigan avenue, is general manager of the Somerville company. Jerome A. Moss, 608 South Dearborn street, is general contractor.

CHICAGO—Victor Adding Machine Co. has awarded contracts to the George Thompson & Son Co., 30 North LaSalle street, for the first unit of a plant 3-story, 60 x 240-foot, costing about $250,000. S. Milton Eichberg, 64 West Randolph street, is architect. Carl Buehler, 319 North Albany avenue, is president of the Victory company. *Noted Nov.* 27.

CLEARING, ILL.—Bersted Mfg. Co., has awarded general contract to Foltz & Brand, 510 North Dearborn street, Chicago, for 1-story, pressed brick and stone manufacturing plant. A. F. Bersted, 765 Mather avenue, Chicago, is president of the Bersted company.

EVANSTON, ILL.—Maple Church Garage, 1624 Maple avenue, has been formed with $1500 capital, to operate automobile garages and manufacture accessories, by Harry G. Garrett, Arthur W. Anderson and Luther S. Hammond.

STREATOR, ILL.—The Clausen-Bohn Machine Co., Sterling and LaRue streets, has been incorporated for $20,000 to conduct a machine shop for the purpose of doing general machine shop business, by Donald Clausen, Halmuth Bohn and George Connolly.

INDIANAPOLIS, IND.—Plaza Oil Co., 606 Odd Fellows building, plans constructing 4-story, reinforced concrete and brick automobile service center on Maryland avenue. Vonnegut, Bohn & Miller, 610 Indiana Trust building, are architects. Norman E. Carter is president of the Plaza Oil Co.

PERU, IND.—Wabash railroad plans constructing shops here. J. E. Tassig, Railway Exchange building, St. Louis, is president.

WATERLOO, IOWA—Hinson Mfg. Co., 922 Sycamore street, has awarded contracts for constructing a 1-story, 60x100-foot automobile accessory plant.

NEW ORLEANS, LA.—Anti-Rust Paint Co. of Louisiana, Inc., has been incorporated with $20,000 capital, with Lewis O. Higgins, 12301 Wirth Place, as president and A. Werner, 3128 Upperline street, as secretary and treasurer.

BOSTON—Darek Makers, Inc., has been formed with 1000 shares no par value stock, to manufacture and deal in machinery, tools, etc., with August C. Doering as president.

BOSTON—Kennman Radio Products, Inc., has been incorporated for $10,000 to manufacture and deal in radio, etc., by Thomas David Kenn, Louis Shulman and Kenneth E. Colson.

BOSTON—P. K. Lindsay & Co., Inc., has been formed with $40,000 capital to manufacture and deal in compressed air machinery, etc. by P. K. Lindsay, A. E. Lindsay, and D. C. Moody.

BOSTON—Wetmore-Savage Electric Supply Co. has been incorporated for $3,000,000 to manufacture and deal in all kinds of electrical equipment and appliances, with V. C. Bruce Wetmore, 76 Pearl street, as president.

MONTVILLE, MASS.—The plant of the Fiskdale Tool Co. here recently was burned. The buildings will be reconstructed immediately according to Alfred H. Montville, owner.

SPRINGFIELD, MASS.—Schott Metal Products Co. has been incorporated for $25,000 by Henry Schott, Thomas A. Monahan and Walter Schott.

DETROIT—National Radiator & Mfg. Co., 2566 East Grand boulevard, plans constructing an addition to its plant in early summer. Neil M. McMillan, Jr. is secretary.

DETROIT—McRae Steel Co., 503 American State Bank building, will construct a 1-story, 50 x 110-foot brick and structural steel warehouse. William Carman is president.

DETROIT—Kermath Mfg. Co. has awarded contracts to Malow Barry Co., 314 McKerchey building, for constructing 1-story, 45 x 53-foot plant addition. B. Farr, 5890 Commonwealth avenue, is president of the Kermath company which builds marine engines.

MUSKEGON, MICH.—Austin Machinery Corp. contemplates building an addition to its plant on Lake Shore drive. G. Roselle, 1705 Lake Shore drive, is manager.

WYANDOTTE, MICH.—Detroit Electric Stove Co., 3435 Piquette avenue, Detroit, is in the market for equipment for the manufacture of electric stoves.

WYANDOTTE, MICH. — Wyandotte Stove Works, plans reconstruction of the plant damaged by fire some time ago. T. H. Conway, Mulberry avenue, Wyandotte, and 53 Chicago boulevard, Detroit, is president of the company.

DULUTH, MINN.—Duluth Superior Dredging Co., Forty-fifth avenue west, plans constructing 2-story, 75 x 150-foot shops building. P. M. Olsen, 1302 Sellwood building, is architect.

KANSAS CITY, MO.—American Steel Works has been incorporated for $7000 by Clarence R. Huston, 432 North Oakley, David L. Smart and others.

ST. JOSEPH, MO.—H. Ehrlich & Sons Mfg. Co., 20 South Seventeenth street, plans construction of a 2 and 3-story, 80x150-foot plant for manufacture of bank fixtures at Lake and Colorado streets. W. Siemens is architect.

ST. LOUIS—Kaysing Iron Works, plans 1-story, brick and steel building at Seventeenth and Clinton streets, for early maturity. W. T. Kaysing, 2710 North Twenty-fifth street, is president.

JERSEY CITY, N. J.—Acme Handle Co., 220 Orient avenue, has retained John Armstrong, 36 Gautier avenue, as architect for 2-story, 90 x 100-foot brick and steel plant.

JERSEY CITY, N. Y.—American Type Foundry Co. has awarded contracts to W. H. & F. W. Crane, 10 Journal square, for a 4-story, brick plant, at Communipaw and Monitor avenues. J. T. Rowland, 100 Sip avenue, is architect.

TRENTON, N. J.—W. & J. Sloane Mfg. Co. has commissioned Lockwood, Greene & Co., New York and Boston, engineers, for constructing a complete plant at Hamilton, N. J., for the manufacture of linoleum and other products.

BRONX, N. Y.—City of New York, board of education, George J. Ryan, 500 Park avenue,

president, has retained William H. Gompert, Flatbush avenue extension and Concord street, Brooklyn, N. Y., as architect for a 4-story, 89 x 189-foot vocational school, at Wales avenue and 147th street.

BROOKLYN, N. Y.—John J. A. Rafter, 200 Arlington avenue, has retained H. Yarish, 42 Graham avenue, as architect for 2-story 75 x 102-foot brick and limestone garage costing approximately $30,000.

BROOKLYN, N. Y.—Cevasco, Cavagnaro & Ambrette, Inc., 156 Sixth street, has awarded contracts to Fifth Avenue Development Co., 5312 Sixth avenue for constructing two metal-working and woodworking shops. L. Kallich, 375 Fulton street, is architect.

BROOKLYN, N. Y.—Charles Daugherty has retained J. M. Berlinger, 469 Seventh avenue, New York, as architect, and L. M. Kaufman, same address as engineer for a 1-story 13 x 50 x 373-foot garage and repair shop at 42 Schenectady avenue.

FULTON, N. Y.—The power house and machine shop of the New York Canners Inc., recently badly damaged by fire, will be rebuilt. The loss, including equipment, is estimated at $400,000.

NEW YORK—Zivie Bender, 1225 Intervale avenue, has plans for constructing 2-story, 100 x 184-foot garage for which John DeHart, 1039 Fox street, is architect.

NEW YORK—Arenco Machine Co., Inc., has been incorporated to manufacture machinery and industrial equipment of a chemical nature, with $300,000 capital by A. Jordohl.

NEW YORK—Klinger Bros., 2462 Grand Concourse, plans constructing 1-story, 100 x 200-foot garage and service station. J. M. Felson, Fisk building, is architect.

NEW YORK—Charles D. Schmidt Corp. has been formed with $100,000 capital, to manufacture brake lining, air brakes, etc., by H. D. Watson.

NEW YORK—The General Contracting & Engineering Co., 40 Rector street, has purchased waterfront property at the foot of Dan street, West New Brighton, S. I. The property is 100 x 400 feet, and includes a 300-foot dock. Plans for the development of this property have not as yet been announced.

NIAGARA FALLS, N. Y.—Whiting-Gram Motor Corp. plans constructing a plant for production of airplanes.

OLEAN, N. Y.—Pennsylvania railroad, 632 Brisbane building, Buffalo, plans reconstructing its shops here recently damaged by fire. E. O. Wood, Babcock street, Buffalo, N. Y., is division engineer. Andrew J. Whitney is general superintendent.

SYRACUSE, N. Y.—Crane Co., 836 South Michigan avenue, Chicago, has retained Melvin L. King, Snow building, as architect, for a 1 and 2-story, 66 x 105 x 265-foot warehouse here. Kendall R. Ackerman is Syracuse manager of the Crane company.

FARGO, N. D.—Fargo Marble & Granite Works plans constructing 2-story, 100 x 100-foot foundry and office building. J. E. Rosatti, 117 Broadway, is architect. G. Garufel, 201 Northern Pacific avenue, is president.

ALLIANCE, O.—McCaskey Register Co. plans constructing a 2-story plant for the manufacture of fare registers.

CINCINNATI—Randolph Oil Burner Co has been incorporated for $18,000 to manufacture and deal in oil burners and other heaters, by H. W. Randolph, Robert C. Webster, Robert L. Mace, Ruth Webster and Edward O. Chapman.

CLEVELAND—Reliance Engineering Co. has awarded contracts to the Austin Co., 16112 Euclid avenue, for a 2-story, 80x162-foot building at 1080 Ivanhoe road.

CLEVELAND—Grabler Mfg. Co., 6365 Broadway, has awarded contracts to Bolton Pratt Construction Co., 7113 Euclid building, for a 2-story, 30 x 60-foot cupola house. Christian Schwarzenberg & Gaeda, 1900 Euclid avenue, are architects. L. Rosenfeld is president of the Grabler company.

CLEVELAND HEIGHTS, O.—Board of education, A. M. Corcoran, 1781 Lee road, president, has retained F. C. Warner, 767 Hippodrome annex building as architect and Mayer & Valentine, 323 Plymouth building, Cleveland, as mechanical engineer, for a $1,500,000, 3-story, high, academic and technical school on Lee and Goodnor roads.

COLUMBUS, O.—Columbus Gear & Pump Co., 338 East Second avenue, is in the market for metalworking equipment. C. A. Brunner is president.

FREMONT, O.—The Herbrand Co., manufacturer of drop forgings, is taking bids on 2-story, 50 x 65-foot; 1-story, 80 x 100-foot; and 1-story, 60 x 150-foot buildings for immediate construction. C. Thompson is manager of the Herbrand works.

MANSFIELD, O.—The Linzer Electric Motor Co. has been incorporated with 750 shares no par value common stock and $75,000 preferred, to manufacture and deal in electrical equipment, by Albert C. Linzer, Harry S. Black, H. T. Siegenthaler, R. W. Tracy and C. J. Blair.

EASTON, PA.—Klein Motor Co. has awarded H. D. Folkenson, 42 South Tenth street, general contract for constructing 2-story, and 1-story, 104 x 140-foot garage of brick and steel. Lohr & Kennard, 315 Brodhead street, are aritects.

New Trade Publications

ARMATURES—Construction of the armature of the polyphase motor produced by the Century Electric Co., St. Louis, is illustrated in detail in a bulletin by that company.

WATER HEATER—Preheating feed water to boilers gives a saving in fuel stated to be 1 per cent for every 11 degrees the temperature is raised, in a bulletin by the Marion Machine, Foundry & Supply Co., Marion, Ind.

DIESEL ENGINES—Comparison of efficiency between steam and the diesel engine for medium powered central stations is made in a bulletin by the Fulton Iron Works Co., St. Louis. In addition to description of the engines typical installations are shown.

INDUCTION MOTORS—The stator and field winding assembly of its polyphase squirrel cage induction motor is illustrated in detail in a bulletin by the Century Electric Co., St. Louis. Every detail of the assembly is shown and described.

SCREW THREAD COMPARATORS—A bench type of screw thread comparator is presented in a leaflet by the Jones & Lampson Machine Co., Springfield, Vt. The device is compact and easy to operate, comparing the production screw with a master thread.

WELDING AND CUTTING EQUIPMENT—Putting the information from its large catalog into a booklet that can be enclosed with a letter, the Bastian-Blessing Co., Chicago, has presented a compact presentation of the subject of welding and cutting by the use of gas.

STEAM ENGINES—Comparison of the uniflow steam engine with some other types, as to consumption of steam and cost of fuel is given in a leaflet by the Mesta Machine Co., Pittsburgh. Indicator cards showing actual performance are given.

WELDING FLUX—A chemical compound fused at high temperature to insure complete solution of the elements is described in a pamphlet by the Chemical Treatment Co., New York. Its purpose is to furnish a flux for welding iron and steel which will produce a soft, ductile weld that can be machined readily.

UNIVERSAL TURRET LATHE—Detailed description of one of its turret lathes is given by Warner & Swasey Co., Cleveland in a catalog just being sent to the trade. Every point of construction and operation is covered by description and illustration and samples of output are shown.

SHEET METAL EQUIPMENT—Use of machines for working sheet metal in vocational schools is outlined in a bulletin by the Niagara Machine & Tool Works, Buffalo, N. Y. Shop layout and the machine and tool equipment are shown and the importance of school training in this trade is emphasized.

TRANSMISSION MACHINERY—The W. A. Jones Foundry & Machine Co., Chicago, has issued two catalogs, one covering power transmission machinery and the other sprocket wheels and chain belting. Both are illustrated and contain engineering data of use to machine shop engineers.

COAL METERS—A device for measuring the volume of coal passing to a combustion chamber is featured in a current bulletin by the Republic Flow Meters Co., Chicago. The meter is based on the fact that equal volumes of coal have equal weight, within narrow limits, regardless of the size of the pieces. Full description, engineering data and illustrations are supplied.

ELECTRIC CRANE EQUIPMENT—A bulletin by the General Electric Co., Schenectady, N. Y., discusses at some length the various electrical devices used on cranes. This includes motors and control, brakes and accessories. Information is given on operating characteristics and types of standard motors are listed, with much valuable data.

LONG-LIFE CASTINGS—A booklet describing its iron castings is being issued by the W. J. Early Sons Foundry, Pittsburgh. The castings are not special alloys but are produced by a process of melting producing the degree of hardness desired. The castings are said to resist wear to a great degree and thus to reduce replacements in uses where ordinary gray iron does not endure.

FURNACE GAS RECORDER—Measuring CO_2 in the flue gases of steam generating plants as a check on losses in combustion is discussed in a catalogue of the Brown Instrument Co., Philadelphia. Attention is called to lack of study and care in eliminating losses in combustion and suggestions are made for bettering conditions in this respect. Methods of applying the recorder and illustrations of typical installations are presented.

Iron and Steel Scrap Prices

CORRECTED TO TUESDAY NOON GROSS TONS DELIVERED TO CONSUMER

Steel Works Scrap

HEAVY MELTING STEEL

Birmingham	15.00 to 16.00
Boston (dealers)	15.50 to 16.00
Buffalo	19.50 to 20.50
Chicago	19.75 to 20.25
Cleveland	19.00 to 19.50
Cincinnati (dealers)	16.50 to 17.00
Detroit (dealers)	15.00 to 15.50
Eastern Pennsylvania	20.00 to 21.00
New York (dealers)	15.50 to 16.50
Pittsburgh	22.00 to 22.50
St. Louis	17.50 to 18.00
Valleys	21.00 to 21.50
No. 1 railroad steel New York (dealers)	16.50 to 17.00

COMPRESSED SHEETS

Buffalo	18.50 to 19.00
Chicago	17.00 to 17.50
Cleveland	16.00 to 16.25
Detroit (dealers)	12.50 to 13.00
Pittsburgh	20.50 to 21.00
Valleys	18.00 to 18.50

BUNDLED SHEETS

Buffalo	15.50 to 16.00
Cincinnati (dealers)	12.50 to 13.00
Cleveland	14.50 to 15.25
Detroit	10.50 to 11.00
Eastern Pennsylvania	17.50 to 18.50
Pittsburgh	19.50 to 20.00
St. Louis	12.00 to 12.50
Valleys	16.00 to 16.50

SHEET CLIPPINGS, LOOSE

Chicago	12.75 to 13.25
Detroit	9.50 to 10.00

STEEL RAILS, SHORT

Birmingham	15.00 to 16.00
Detroit, No. 2	14.50 to 15.00
Chicago	22.00 to 22.50
Cincinnati (dealers)	18.00 to 18.50
Cleveland (over 6 ft.)	17.50 to 17.75
St. Louis	19.50 to 20.00

STOVE PLATE

Birmingham	15.00 to 16.00
Boston (consumers)	15.50 to 16.00
Buffalo	16.50 ot 17.00
Chicago	19.00 to 19.50
Cincinnati (dealers)	12.50 to 13.00
Cleveland	15.50 to 16.00
Detroit (net tons) dealers	13.50 to 14.00
Eastern Pennsylvania	17.00
New York (dealers)	13.50 to 14.00
Pittsburgh	17.50 to 18.00
St. Louis	17.00 to 17.50

LOW PHOSPHORUS

Buffalo	22.50 to 23.00
Cincinnati((dealers)	18.00 to 18.50
Eastern Pennsylvania	23.00 to 25.00
Pitts. billet and bloom crops	26.50 to 27.50

SHOVELING STEEL

Chicago	19.50 to 20.00
Pittsburgh	15.00 to 15.50
St. Louis	17.50 to 18.00

KNUCKLES, COUPLERS, SPRINGS

Chicago	23.00 to 23.50
Eastern Pennsylvania	21.00 to 22.00
Pittsburgh	23.00 to 23.50
St. Louis	21.00 to 21.50

FROGS, SWITCHES, GUARDS

Chicago	20.00 to 20.50
Eastern Pennsylvania	19.00 to 20.00
St. Louis	19.00 to 19.50

BOILER PLATE, CUT

St. Louis	12.50 to 13.00

ANGLE BARS—STEEL

Buffalo	20.50 to 21.00
Chicago	21.00 to 21.50
St. Louis	18.50 to 19.00

Iron Mill Scrap

RAILROAD WROUGHT

Birmingham	14.00 to 15.00
Boston (dealers)	16.00 to 17.00
Buffalo No. 1	17.00 to 17.50
Buffalo No. 2	19.50 to 20.50
Cleveland, No. 1	16.25 to 16.50
Chicago, No. 1	19.75 to 20.25
Chicago, No. 2	19.75 to 20.25
Cincinnati, No. 1 (dealers)	14.00 to 14.50
Detroit, No. 2	15.00 to 15.50
Eastern Pennsylvania	21.00 to 22.00
New York, No. 1 (dealers)	17.00 to 17.50
Pitstburgh, No. 1	18.00 to 18.50
Pittsburgh, No. 2	22.00 to 22.50
St. Louis, No .1	17.00 to 17.50
St. Louis, No. 2	17.25 to 17.75

WROUGHT PIPE

Boston (dealers)	13.00 to 13.50
Buffalo	14.00 to 14.50
Eastern Pennsylvania	18.50
New York (dealers)	14.50 to 15.00

YARD WROUGHT

Boston	15.00 to 16.00
Eastern Pennsylvania	19.00 to 20.00

CITY WROUGHT

New York, long	16.00 to 16.50

BUSHELING

Buffalo	18.50 to 19.00
Chicago, No. 1	17.75 to 18.25
Chicago, No. 2	13.75 to 14.25
Cincinnati, No. 1 (dealers)	13.00 to 13.50
Cleveland, No. 1	16.00 to 16.25
Cleveland, No. 2	14.25 to 14.75
Detroit, No. 1	12.00 to 12.50
Detroit, No. 2 (new)	11.00 to11.50
Detroit, No. 2 (old)	10.50 to 11.00
Eastern Pennsylvania	15.00 to 16.00
Pittsburgh, No. 1	17.50 to 18.00
St. Louis, No. 1	16.00 to 16.50

MACHINE SHOP TURNINGS

Birmingham	8.00 to 9.00
Boston (dealers)	12.00 to 12.50
Buffalo	14.25 to 14.75
Chicago	12.75 to 13.25
Cincinnati (dealers)	13.00 to 13.50
Cleveland	16.00 to 16.50
Detroit (dealers)	11.50 to 12.00
Eastern Pennsylvania	18.50 to 19.00
New York (dealers)	13.25 to 13.75
Pittsburgh	18.00 to 18.50
St. Louis	10.50 to 11.00
Valleys	15.50 to 15.75

CAST IRON BORINGS

Birmingham (chemical)	15.00 to 16.00
Birmingham (plain)	8.00 to 9.00
Boston (chemical)	16.00 to 16.50
Boston (dealers)	11.50 to 12.00
Buffalo	14.50 to 15.00
Chicago	15.50 to 16.00
Cincinnati (dealers)	13.00 to 13.50
Cleveland	16.25 to 16.50
Detroit (dealers)	11.50 to 12.00
Eastern Pennsylvania (chem.)	21.00 to 22.00
Eastern Pennsylvania	16.00 to 17.00
New York (dealers)	11.25 to 11.75
Pittsburgh	17.50 to 18.00
St. Louis	13.25 to 13.75
Valleys	16.50 to 17.00

MIXED BORINGS AND TURNINGS
For blast furnace use

Boston (dealers)	9.50 to 10.00
Cleveland	16.00 to 16.50
Detroit (dealers)	11.50 to 12.00
Eastern Pennsylvania	13.00 to 15.00
New York (dealers)	10.50 to 11.00
Pittsburgh	15.00 to 15.50

IRON AXLES

Birmingham	19.00 to 20.00
Boston (consumers)	31.00 to 32.00
Buffalo	26.50 to 27.00
Chicago	31.25 to 31.75
Cincinnati (dealers)	24.50 to 25.00
Eastern Pennsylvania	30.00
St. Louis	27.50 to 28.00

IRON RAILS

Buffalo	18.00 to 18.50
Chicago	20.00 to 20.50
Cincinnati (dealers)	14.00 to 14.50
St. Louis	18.00 to 18.50

PIPES AND FLUES

Chicago	15.25 to 15.75
Cincinnati (dealers)	11.00 to 11.50
Cleveland	14.50 to 15.00
St. Louis	13.50 to 14.00

RAILROAD GRATE BARS

Buffalo	15.50 to 16.00
Chicago	18.00 to 18.50
Cleveland	15.50 to 16.00
Eastern Pennsylvania	17.00
New York (dealers)	15.00 to 15.50
St. Louis	16.75 to 17.25

FORGE FLASHINGS

Boston (dealers)	12.00 to 12.50
Buffalo	15.00 to 15.50
Chicago	14.50 to 15.00
Cleveland (under 10 in.)	15.50 to 15.75
Cleveland (over 10 in.)	14.75 to 15.00
Detroit (dealers)	11.50 to 12.00
Pittsburgh	17.00 to 17.50

FORGE SCRAP

Boston (dealers)	12.00 to 12.50
Chicago	24.00 to 24.50
Eastern Pennsylvania	17.50 to 18.50

ARCH BARS AND TRANSOMS

Chicago	25.25 to 25.75
St. Louis	21.50 to 22.00

ANGLE BARS—IRON

Chicago	23.00 to 23.50
St. Louis	22.50 to 23.00

Iron and Steel Works Scrap

AXLE TURNINGS

Boston (dealers)	12.50 to 13.00
Buffalo	15.00 to 15.50
Chicago	17.50 to 18.00
Cleveland	16.50 to 16.75
Eastern Pennsylvania	18.00 to 18.50
Pittsburgh	18.50 to 19.00
St. Louis	14.00 to 14.50

STEEL CAR AXLES

Birmingham	18.00 to 19.00
Boston (shipping point)	20.00 to 20.50
Buffalo	20.00 to 20.50
Chicago	23.50 to 24.00
Cleveland	19.50 to 20.00
Eastern Pennsylvania	25.00 to 26.00
Pittsburgh	23.00 to 23.50
St. Louis	22.25 to 22.75

SHAFTING

Boston (shipping point)	20.00 to 20.50
Chicago	24.00 to 24.50
Eastern Pennsylvania	25.00 to 26.00
New York (dealers)	19.50 to 20.50
St. Louis	20.50 to 21.00

Iron Foundry Scrap

CAR WHEELS

riBmingham, tram car	17.00 to 18.00
Birmingham, iron	16.00 to 17.00
Boston (consumers)	18.00 to 19.00
Buffalo	20.50 to 21.00
Chicago, iron	22.00 to 22.50
Chicago, steel	23.00 to 23.50
Cincinnati	14.50 to 15.00
Eastern Pennsylvania	20.00 to 21.00
New York iron (dealers)	16.00 to 17.00
Pittsburgh, iron	20.50 to 21.00
Pittsburgh, steel	23.00 to 23.50
St. Louis, iron	19.00 to 19.50
St. Louis steel	21.25 to 21.75

NO. 1 CAST SCRAP

Birmingham, cupola	17.00 to 17.50
Boston (consumers)	19.50 to 20.00
Buffalo	18.25 to 18.75
Chicago, No. 1 machinery	23.00 to 23.50
Chicago No. 1 railroad or agricultural	20.50 to 21.00
Cincinnati No. 1 machinery cupola (net tons dealers)	20.50 to 21.00
Cleveland, cupola	20.00 to 20.50
Detroit (net tons) (dealers)	15.50 to 16.00
Eastern Pennsylvania, cupola	20.00 to 21.00
New York, cupola (dealers)	17.00 to 17.50
Pittsburgh, cupola	19.50 to 20.00
San Francisco, delivered	24.00
Seattle	18.00
St. Louis, railroad	20.25 to 20.75
St. Louis, agricultural	20.00 to 20.50
St. Louis, machinery	21.25 to 21.75
Valleys	19.50 to 19.75

HEAVY CAST

Boston (consumers)	17.00 to 17.50
Buffalo (breakable)	16.00 to 16.50
Cleveland	14.50 to 14.75
Detroit (automobile) (net ton)	15.50 to 16.00
Eastern Pennsylvania	18.50 to 19.00
New York (dealers)	17.00 to 17.50
Pittsburgh	19.00 to 19.50

MALLEABLE

Boston (railroad	19.00 to 20.00
Buffalo	20.00 to 21.00
Chicago, railroad	21.00 to 21.50
Chicago, agricultural	18.50 to 19.00
Cincinnati, agricultural (dealers)	17.50 to 18.00
Cincinnati, railroad (dealers)	18.00 to 18.50
Cleveland, agricultural	19.00 to 19.25
Cleveland, railroad	19.75 to 20.00
Detroit (dealers)	16.00 to 16.50
Eastern Pennsylvania, railroad	16.50 to 17.00
Pittsburgh, railroad	22.00 to 22.50
St. Louis, agricultural	17.75 to 18.00
St. Louis, railroad	17.75 to 18.25

Miscellaneous Scrap

RAILS FOR ROLLING
5 feet and over

Birmingham tram car	15.50 to 16.50
Boston (dealers)	15.00 to 15.50
Chicago	21.50 to 22.00
Cleveland	19.00 to 19.50
Detroit	14.50 to 15.00
Eastern Pennsylvania	21.00
New York (dealers)	17.50 to 18.00
Pittsburgh district	23.00 to 23.50
St. Louis	19.50 to 20.00

LOCOMOTIVE TIRES

Chicago	21.75 to 22.25
St. Louis	19.00 to 19.50

LOW PHOSPHORUS PUNCHINGS

Chicago	20.50 to 21.00
Eastern Pennsylvania	22.00 to 24.00
Pittsburgh	24.50 to 25.00

Announcement

The Union Drawn Steel Company's policy of national service is emphasised by the opening of its large new plant at

HARTFORD, CONN.

on

JANUARY FIRST ~ 1925

Iron and Steel Prices

Nuts and Bolts

F.o.b. producer's plant freight allowed on 1000 pounds or more, substantially all points east of Mississippi and north of Ohio river.

Hot pressed square tapped or blank .....$4.00 off list
Hot pressed hexagon tapped or blank .....$4.40 off list
Cold punched square or hexagon blank .....$4.10 off list
Cold punched square or hexagon tap- .....$4.10 off list
Cold punched semifinished hexagon nuts ½-inch and larger ....75, 10 and 5 off
Cold punched semifinished hexagon nuts 9/16-inch and smaller..80, 10 and 5 off
Price f.o.b. Pittsburgh, packages of 50.

CARRIAGE BOLTS

(½ x 6", smaller and shorter)
Rolled thread .....50, 10 and 10 off
Cut thread (all sizes) .....50 and 10 off

MACHINE BOLTS

(½ x 4", hot pressed nuts)
Rolled thread .....60 and 10 off
Cut thread (all sizes) ....50, 10 and 10 off
(All sizes cold punched nuts)
Cut thread .....45, 10 and 5 off
Lag screws .....60, 10 and 10 off
Plow bolts Nos. 1, 2 and 3 heads.. ..... 50 and 10 off
4 to 10 heads .....50-10 + 20 off
*Flat and round head stove bolts.... .....80 and 5 off
Tap bolts .....30 off
Bolt ends with hot pressed nuts ....50, 10 and 10 off
Bolt ends with cold punched nuts ....45, 10 and 5 off
Blank bolts .....50, 10 and 10 off
Rough stud bolts with nuts (250 pieces or more of a size) ....40 and 10 off

SEMIFINISHED CASTELLATED AND SLOTTED NUTS

Per 1000, f.o.b. producer's plant, freight allowed

	S. A. E. Castellated	U. S. S. Slotted
¼	$ 4.40	$ 4.40
5/16	5.15	5.15
⅜	6.20	6.60
7/16	7.90	9.00
½	10.10	10.50
9/16	13.80	14.20
⅝	17.00	17.30
¾	23.50	24.00
⅞	36.00	36.00
1	55.50	58.00
1⅛	89.00	89.00
1¼	126.00	131.00
1⅜	183.50	183.50
1½	210.00	210.00

Larger sizes—Prices on application.

HEXAGON CAP AND SET SCREWS

Milled .....80, 10, and 10 off
Upset .....85, 10, 10 and 10 off
*F.o.b. producer's plant freight allowed on 300 pounds or more as above.

Rivets

Structural rivets, carloads Pittsburgh and Cleveland.. 2.60c
Structural rivets, carloads, Chicago 2.75c
Rivets, 7/16-in. and smaller Pittsburgh and Cleveland..70, 10 and 5 off
Rivets, 7/16-in. and smaller Chicago* .....70, 10 off
*Some makers quoting 70 off with freight allowed on 300 pounds or more.

Washers

Wrought, c. l., Chicago dist. .....$6 off
Wrought, c. l., Pitts dist.....$6.10 off
Lock washers f.o.b. factory 85 and 5 off

Steel Pipe

Pittsburgh and Lorain basing discounts, jobbers' carloads.

Evanston, Ill., and Indiana Harbor, Ind., take differential 2 points less discount or $4 per ton higher net.

Chicago takes differential 2½ points less than Pittsburgh-Lorain basis or $5 per ton higher net.

Butt Weld

	Black	Galvanized
⅛-inch	45	19½
¼ and ⅜-inch	51	25½
½-inch	56	42½
¾-inch	60	48½
1 to 3-inch	62	50½

Lap Weld

2-inch	55	43½
2½ to 6-inch	59	47½
7 to 8-inch	56	43½
9 and 10-inch	54	41½
11 and 12-inch	53	40½

REAMED AND DRIFTED

Butt Weld

1 to 3-inch	60	48½

Lap Weld

2-inch	53	41½
2½ to 6-inch	57	45½

EXTRA STRONG—PLAIN ENDS

Butt Weld

⅛-inch	41	24½
¼ and ⅜-inch	47	30½
½-inch	53	42½
¾-inch	58	47½
1 to 1½-inch	60	49½
2 to 3-inch	61	50½

Lap Weld

2-inch	53	42½
2½ to 4-inch	57	46½
4½ to 6-inch	56	45½
7 to 8-inch	52	39½
9 and 10-inch	45	32½
11 and 12-inch	44	31½

DOUBLE EXTRA STRONG

Butt Weld

½-inch	42	32½
¾ to 1½-inch	45	35½
2 to 2½-inch	47	37½

Lap Weld

2-inch	41	32½
2½ to 4-inch	43	34½
4½ to 6-inch	42	33½
7 to 8-inch	38	25½

Wrought Iron Pipe

Pittsburgh basing discounts, jobbers' carloads. Individual quotations made on delivered basis

THREADS AND COUPLINGS

Butt Weld

⅛ and ¼-inch	+11	+39
⅜-inch	22	2
½-inch	28	11
¾-inch	30	13

Lap Weld

1¼ and 1½-inch	Upon application	
2-inch	23	7
2½ to 6-inch	26	11
7 to 8-inch	28	13
7 to 12-inch	26	11

PLUGGED AND REAMED

Two points less than above

EXTRA STRONG, PLAIN ENDS

Butt Weld

⅛ and ¼-inch	+19	+54
⅜-inch	21	7
½-inch	28	12
¾-inch	30	14
1 to 1½-inch		

Lap Weld

2-inch	23	9
2½ to 4-inch	29	15
4½ to 6-inch	28	14
7 to 8-inch	21	7
9 to 12-inch	16	2

DOUBLE EXTRA STRONG

Butt Weld

½-inch	+47½	+59½
½-inch	+28	+40
1-inch	+34	+40
1¼-inch	+28	+40
1½-inch	+27	+39

Lap Weld

2 and 2½ inches	+13	+25
3 to 4-inch	+ 8	+17
4½ to 6-inch	+ 9	+18
8-inch	+12	

Boiler Tubes

Pittsburgh less carload discounts. Carload 4 points larger

STEEL (Lap Welded)

2 and 2¼-inch	23 off
2½ and 2¾-inch	33 off
3-inch	36 off
3¼ to 3¾-inch	38½ off
4 to 13-inch	42 off

CHARCOAL IRON

1½-inch	+22
1¾-inch	+12
2 and 2¼-inch	+ 2
2½ to 3-inch	3
3¼ to 4½-inch	5

SEAMLESS COLD DRAWN*

1-inch	51 off
1¼ and 1½-inch	43 off
1¾-inch	27 off
2 and 2¼-inch	18 off
2½ and 2¾-inch	28 off
3 and 3¼-inch	32 off
3½ and 3¾-inch	33 off
4-inch	37 off
4½ and 5-inch	29 off

SEAMLESS HOT HOLLED*

3 and 3¼-inch	34 off
3½ and 3¾-inch	35 off
4-inch	39 off

SEAMLESS STEEL MERCHANT BOILER TUBES*

Extras:

Add $8 per net ton for more than four gages heavier than standard and add 10 per cent to theoretical weight.

Add 5 per cent for lengths over 24 feet and not over 26 feet.

Smaller tubes than 1-inch and lighter than standard gage to be sold at mechanical tubing list and discount.

Intermediate sizes and gages not listed above take price of next larger outside diameter and heavier gage.

SEAMLESS STEEL MECHANICAL TUBING*

Base Discounts

Carbon, 0.10 to 0.20 per cent ..... 83 off
Carbon, 0.30 to 0.40 per cent .... 81 off
Carbon, 0.40 to 0.50 per cent ....net price
Plus differentials and extras for cutting.

SEAMLESS STEEL LOCOMOTIVE AND SUPERHEATER TUBES*

Outside diameter	Net prices per foot f.o.b. Pittsburgh Gage	Price
2-inch	12-gage	15c
2-inch	12-gage	15c
2-inch	11-gage	16c
2-inch	10-gage	17c
2¼-inch	12-gage	17c
2¼-inch	11-gage	18c
2¼-inch	10-gage	20c
3-inch	7-gage	35c
1½-inch	9-gage	15c
5¾-inch	9-gage	55c
5½-inch	9-gage	57c

Plus usual extras for forming and for long lengths.

*Published discounts are subject to considerable shading, in some cases as much as three to five extra 5 per cents.

Cast Iron Water Pipe

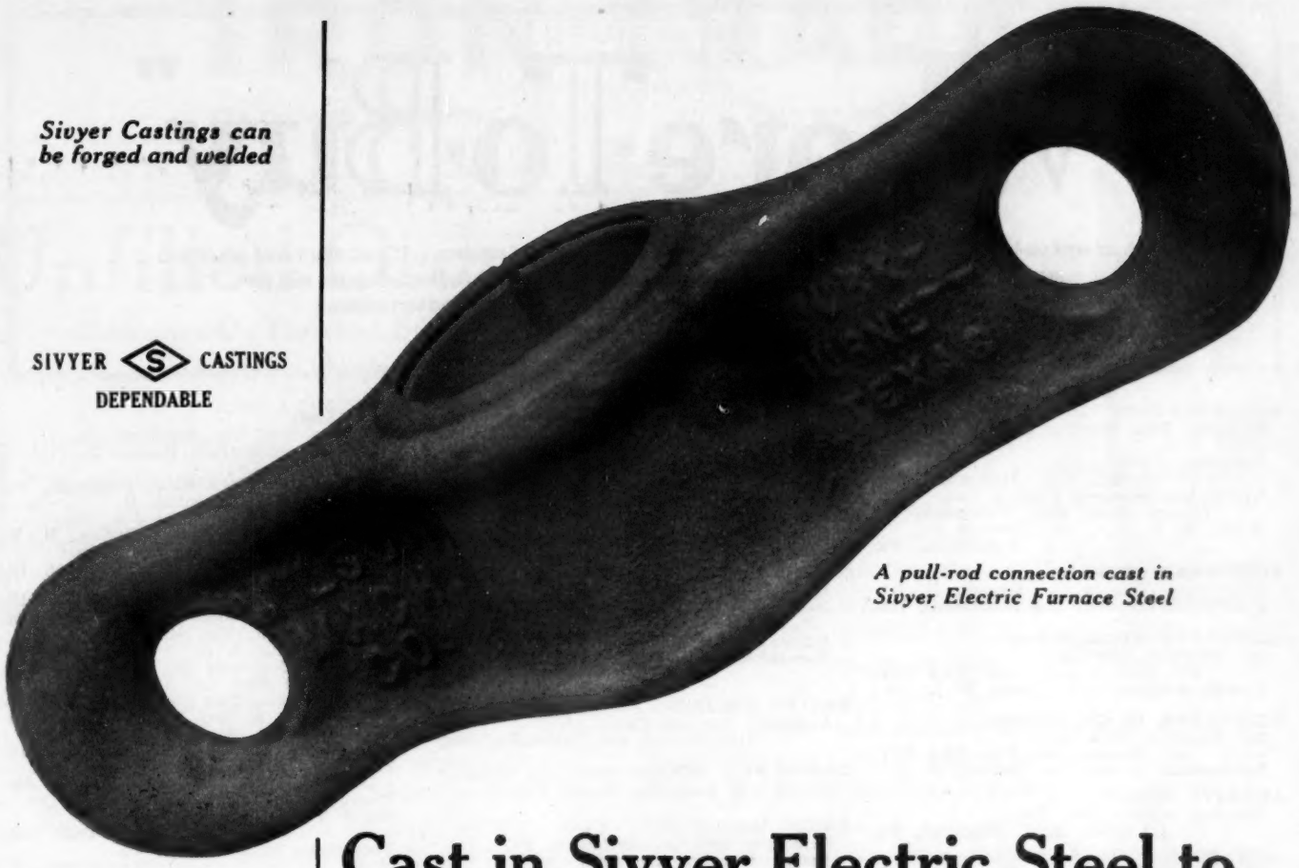
Prices per net ton

Class B Pipe

Four-inch, Chicago .....$52.20 to 53.20
Six-inch and over, Chicago.. 48.20 to 49.20
Four-inch, Birmingham ..... 44.00 to 44.50
Six-inch and over Birmingham 40.00 to 40.50
Four-inch, New York .... 60.50 to 61.60
Six-inch and over, New York 55.50 to 56.60
Standard fittings, Birmingham, base..$110.00
6 to 24-inch, base; over 24-inch, plus $20; 4-inch, plus $20; 3-inch, plus $20; gas pipe fittings, $5 higher.
Class A pipe is $5 higher than Class B.

Sivyer Castings can be forged and welded

SIVYER S CASTINGS
DEPENDABLE



A pull-rod connection cast in Sivyer Electric Furnace Steel

Cast in Sivyer Electric Steel to Assure Uninterrupted Service

IN many cases, it has been found that a single-piece Sivyer Electric Steel Casting is more desirable than an assembled part. By casting the pull-rod connection, shown above, in Sivyer Electric Steel, the nuts, bolts, and rivets, that tend to loosen and cause breakage and service interruptions, are eliminated. The job of this particular part is to connect a pull-rod to an eccentric—permitting two or more wells to be pumped at the same time. Since uninterrupted service is so essential, and hence breakage and working troubles must be positively eliminated, the part is cast in Sivyer Electric Steel.

Experimental Work On New And Old Parts

Many of the parts that are seeing active service in the oil industry today were put into the Sivyer Foundry practically at their inception, because of Sivyer's excellent experimental facilities. On new parts, the Sivyer Foundry's experimental work has been able to eliminate many of the castings troubles that characterize most new jobs.

In one case, blue prints of the parts were made from a finished "in production" Sivyer Casting. An oil field man came to the Sivyer Foundry with an idea, and a few undeveloped patterns. After six weeks of intensive experimental work, the troubles were definitely eliminated and the job was ready for production.

This type of experimental work is leading many manufacturers to put their new and untried parts into Sivyer Electric Steel. In addition, it is leading many others who have experienced troubles with other metals or other methods, to turn to the Sivyer Steel Casting Company for castings that will stand up in service.

SIVYER STEEL

SIVYER STEEL CASTING COMPANY, MILWAUKEE

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Pollak Steel Co., The, Cincinnati, O.
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